



## PHOTOGRAPHS FROM MANUFACTURING DISTRICTS.—No. IV.

THE WALKER FAMILY, AND THE CAST-IRON TRADE.—Anyone having lately travelled from London to Leeds by the North Midland line will remember Masbro' Station: during the detention which will sometimes happen there it is quite possible for a person to speculate on what might be the chief occupation of the people residing in that locality. There are houses with garden patches, where every green thing looks as if dyed various colours by the darkened atmosphere of forges, rolling-mills, and furnaces. There are old houses which seem as if they were soliciting to be pulled down, to save them the trouble of falling. Bearing a peculiar contrast with these, there appears at a little distance a noble mansion, lately occupied by almost the last of the Walker family; and on the other side may be seen innumerable new buildings, with high chimneys, and the noise and stir of various mechanical operations, all indicating a colony of the children of industry, and the power of the princes of commerce. Whether such a sight is pleasant one or not, it is a new one, which may impart some attraction to it, and may be very agreeable to the taste of men who admire the progress of the country in the substantial art of producing what may be justly called "hardware." Twenty years ago, there were no railway lines at Masbro'; a new building was scarcely contemplated. Vast volumes of flame issued from the blast furnace at the Holmes, and the little cottages were occupied chiefly by workmen there employed. To the right, a college for the education of dissenting ministers was surrounded with trees and fields; but business seemed to centre only at the ironworks originated by the Walker family. Our Photograph may appear to have something of the fanciful about it, but we must state that, whatever may be the dress adopted, the facts are exactly as now placed before the reader. It may not be improper to state that the novelist has been in the neighbourhood. The principal characters and most interesting scenes in *Ivanhoe* were drawn in the vicinity of Masbro', called "Rotherwood and Conisbro".

So early as the year 1160, Richard de Busli granted to the monks of Kirkstead, in Lincolnshire, sufficient land for mining purposes, at Kimberworth, a distance of less than a mile from Masbro' Station, and ordered the erection of ironworks, for smelting ore and forming it into bars. These works were of small dimensions in comparison with the great iron-works founded at Masbro' by Mr. Samuel Walker. This gentleman was an orphan, without means and with but little education; but, after various reverses, he succeeded, along with two of his brothers, in establishing the most flourishing trade then known in Europe. Many large bridges, including Southwark Bridge, in London, were cast at the iron foundry belonging to the Walker family, at Masbro'. But a vast amount of business was transacted there during the wars of England with America and France. At this time a circumstance occurred which excited a vast sensation in the country. The remittances from the War Office were forwarded by the mail coach to Sheffield, and from thence by a youth who rode single horse to Masbro'. On one of these occasions it appeared the mail had been followed, and the post-boy was waylaid on Attercliffe Common: he was pulled off his horse, and the letter containing a large amount for the Walkers was stolen from his bag. The youth's statement was that only one person appeared in the robbery; that no violence was used; his mouth was tied with a cambric handkerchief, which was left with him. On examination, it was found marked with initials; this was the only clue to the discovery of the thief. A woman of fashion owned the handkerchief, and swore to its being taken away by a person whose name was Spence Broughton, a man of very respectable connection, and with a family of his own; but, having departed from the paths of virtue, the consequences were difficulties, which he sought to extricate himself from by the unjust act which has been related. However, on the evidence of this woman he was convicted at York on the charge of highway robbery: the sentence was that he should be hung at the place of his trial, and his body should be suspended in iron at the spot where he had committed the crime; and so it was: well do I remember seeing the bones of the criminal swayed from side to side, the melancholy spectacle only rendered visible by the light which issued from the blast furnace at Masbro', which belonged to the Walker family.

At the time of the American war, the cast-iron business, in the hands of the Walker family, was a very profitable engagement. Numerous kinds of talent found employment at their celebrated iron-works; and their liberality has been recorded by very numerous traditions, and the most substantial facts. But apart from the vast amount of riches they accumulated, the great blessings they conferred on their workpeople in advantages of a temporal and religious order, and the encouragement they gave to men of steady persevering habits, were very conspicuous. They also left a legacy, which posterity has improved in many ways, and they commenced a trade which they never could have anticipated in the forms in which it now appears. Cannon and bridges are now cast in other parts of the empire. The Walker family, almost extinct, have resigned the energies once employed in those great undertakings. Their workmen have passed from the scenes of their labour and their pleasures; but were neither unwarded nor forgotten. But a change has taken place which, instead of desolation, as sometimes is the case when a large firm is dissolved, is in this instance prosperity; a trade has been established which is gaining a very surprising celebrity. The extensive manufacture of stove grates, in beautiful designs, chased and ornamented, which are the fittings of the finest steamers which leave the English coast, and others which are placed in the palaces of our nobility, and in the establishments of the princes of commerce, is now carried on at Masbro'. It is right to give talent its due—to praise individual invention and personal success; but the Photograph in its first colouring—in its true and natural shades—gives out the Walker family as the grand idea, the seeds of the present harvest, and the planters of the numerous colonies of successful employers and happy employed; and the participants of the success now experienced by manufacturers in Rotherham and Masbro', Swinton, Chapelton, Elsecar, and many other places within 10 miles from the original ironworks commenced by Mr. Samuel Walker, are, undoubtedly, in a great measure indebted to his worthy successors for the idea which gave their plans existence, and helped their progress.

It would be improper, under the head of the Cast-Iron Trade, to neglect another branch of business, which has been highly injurious to the commercial repute of this country; but I must in this picture the trade, and omit the introduction of names.

THE CAST-IRON TRADE IN CUTLERY.—However competition may have been regarded as a benefit to the consumer, there is a point at which it proves a direct injury—that is, in the case of what are called small castings, such as knives, forks, and scissors. The articles were introduced for the purpose of supplying a cheap market, and enabling the manufacturers to compete with each other as well as with the foreigner, who could avail himself of cheap labour; the difference in the price of common steel and cast-iron is not so great as the saving effected by the processes, which are prevented by the form the cast-iron article receives from the mould or sand from which it is obtained. In the table-fork, five distinct processes have to be gone through before it arrives at the same shape which the casting operation furnishes. These processes cost, on average, about 4d. per dozen. The cast fork can be sold ready for the handle for about the same money. But to finish the steel fork to the same point, 6d. per dozen more must be expended; so that the saving in manufacture is not less than 60 per cent. The appearance of the cast article has often deceived persons who have had considerable experience in trade; so much so, that I well remember the story of a large buyer of cutlery who had purchased cast-iron scissors for steel ones, and to guard against being again deceived, he examined the blades to see if there were any stakes in them. These were always found in steel articles; but they were damages which rendered them what are called "wasters," so that the first evil was but little repaired by the alteration he made in his plan for the selection of cutlery goods. A very particular acquaintance, whose whole course and circumstances I have perfectly understood, says he was for sometime, in consequence of competition, obliged to substitute a cast article for a steel one, and even then could not obtain a common working-man's remuneration. By a plan adopted in its finish, no person could distinguish it from the genuine; but should the purchaser have the ill-luck to let it fall on the flag stones it would have broken like an article made of glass. Such are some of the evil consequences of the cast metal trade—some of the fallacies of the system of over-wrought competition. Nothing will answer so well as a legitimate system of business; and nothing will so well represent the commercial greatness of the country as the production of articles which can be fairly offered for the purposes they are required to accomplish.

It may serve an important purpose if I add that no person engaged in the manufacture of cast-iron cutlery has accumulated property; that their warehouses are generally miserable places, and their workshops no better than cattle sheds. Whatever injury has been produced, not a single instance of private benefit appears as its results: even Mammon, so easily

propitiated, has withheld his gifts from this class of worshippers; but the grave has received into its dominions hundreds of workmen who might have been still alive, but for the pernicious dust inhaled in grinding cast-iron forks, scissors, knives, &c. Names, for obvious reasons, have been suppressed, but facts have been recorded which are every day receiving fresh confirmation; and if this branch of business could, by any means, be discontinued, personal advantage would be only second to national credit.—JOHN BENNETT.

## CORNISH MINE PHOTOGRAPHS—No. XXI.

## "THE KNAVISH CAPTAIN."

It is frequently thrown into the teeth of mine inspectors that they never give unfavourable reports—that he who "peppers the highest pleases the palate the best." It may appear so to some, but it is not the duty of the inspector to publish the document he may draw out from his observation; it is only his province to hand it to his employer, and let him do what he pleases with it. Many a withering report is either consigned to the flames or for ever hid. At the commencement of these papers, we pourtrayed things and people as they are and were; then we were told we painted everything *couleur de rose*. We were only doing our duty, and in pursuance of that we at length come to the bad as well as the good. In describing them we shall not swerve from our intention or our path, but go fearlessly on, turning neither to the right hand or to the left. On this occasion we shall keep our incognito, though the characters (for there are more than one) are well known in Cornwall, as well as in London, where they have good reason to be.

One of these gentry, some few years since, visited "town," where his specious language, exemplary conduct, and pious demeanour soon won for him golden opinions and golden sovereigns withal, wherewith he journeyed to Cornwall, and commenced a mine with a genuine Cornish name, which we shall call by the initial of C— Mine.

Well, Wheal C— went to work: tin was soon found; considerable quantities were raised and thrown over the burrow at a certain place as rubbish, though rich enough to pay—the reports from the mine continually stating that tin was always being discovered and raised. The fact of its being so well known in the country; the shares advanced in price continually; the captain's friends bought largely into the mine. When the demand from Cornwall was known in "town" to be a "great fact," the "town" thought it the very nick of time to buy, but shares were not to be had. Tin was now returned, a considerable balance realised, shares rapidly advanced in value, a dividend was declared, and another at the next quarter's meeting promised by Capt. Jemmy; but at the next account, instead of a dividend, a call was necessary, and was made—not on Capt. Jemmy's friends, but on the London dupes, who had eagerly purchased shares in a "dividend mine." Soon afterwards it was found that the engine was not of sufficient power, and not in the right place. Capt. Jemmy sent in his "resignation," to prevent being kicked out, the "bal" was stopped, and the materials sold. Capt. Jemmy attended the sale, and to the surprise of every person present bought rather largely of the tin-dressing materials at a cheap rate. When the halvans or refuse came to be sold, Capt. Jemmy was the purchaser. He well knew where the tin that ought to have been returned for the adventurers was thrown, and there he commenced active operations. Having the apparatus on the spot, and his family being brought up to the business, and working on the mine, they soon made handsome returns from that which he had previously represented would not pay for dressing. This source of wealth lasted for some years. It is said he realised many hundreds of pounds from this "speculation," as he called it—a piece of knavery worthy the most "cute Yankee" in that land of sharpers.

Time rolled on, the past history of the mine forgotten in "town," or lost in its maze of misfortunes and more gigantic swindles, and the name of Capt. Jemmy quite out of mind. That same fell destroyer exhausted the captain's halvans, and the captain (now a man of substance and sanctity) again revisited the City of London, armed with a well-written prospectus, as well as maps and plans of a mine; the name had been most judiciously altered, so as to prevent the shadow of a shade of suspicion. It was proved beyond controversy that the mine had sold considerable quantities of tin; the smelters' bills showed it, and all this from the mere refuse of the former workers. Affidavits of the men proved that they only left their work when they were actually driven out by the water—that the engine was too small for the mine, and was in the wrong spot properly to develop the works. All this, backed as it was by a venerable personage who was known to be in the "connection," by his travelling certificate, as a preacher of the gospel, soon again procured him another company for the late C— Mine. Immediate measures were strongly urged. There was a most capital second-hand engine, as good as new, to be sold, and only two or three miles off. Tin was high, and nothing could possibly interfere to mar their prospects: so far so good. A deputation was invited; a deputation came, saw the mine, took the miners' "depositions," viewed the capital engine and the captain's late works, which he open-heartedly offered them at what they cost him, though he had wonderfully improved them at a considerable expense. The "deputation" (who knew as much about what they saw as if they had studied a transit instrument instead of a steam-engine, or of the proper situation for a mine, as if they had been requested to point out the proper place for a new planet, or of the value of Captain Jemmy's plant, as if they had been asked to name the worth of the new picture in the National Gallery) returned to London, highly delighted with their visit, and with their captain, who they assured their fellow-directors was a pious, straightforward man, every way suitable to their purpose, and worthy of all confidence.

On this report orders were at once given to purchase the engine, and prosecute the mine with vigour, which was effectually done. A capital engine-house soon reared its white-washed presence in the proper spot, the captain enjoyed a handsome salary, his family found employment on the mine, the farce of throwing away halvans was enacted over again, some fault was found with the mine and its management, the shareholders in disgust stopped the "bal," the captain bought the refuse and the dressing apparatus he required, and has returned hundreds of pounds profit by his second "speculation." The halvans are now very nearly done, and as the third attempt is said to be lucky it will doubtless be tried, unless the captain sees this article, when he, being aware his motions and actions are known and pretty closely watched, may refrain, as he ought, from such malpractices. If the mine had been honestly conducted, there can scarcely be a doubt it would have been remunerative. Should it be again offered, we shall not fail to ascertain if Capt. Jemmy be in connection, when even his sanctity will not save him from exposure. The cloak will be stripped off, and the whitened sepulchre (we beg pardon, we mean now engine-house in the proper place) shall be exposed. The author's name is well known to this worthy, and he is perfectly welcome to these remarks, and to this piece of advice—"Go thy way, and sin no more." Such, gentle reader, is a true Photograph. Have we redeemed our promise? Is not this a knavish captain?

We know another instance, in which a red-faced fellow, with stentorian lungs, and with a bouncing rough impudence that in London was mistaken for blunt honesty and peculiarity of manner, actually sold a mine in the City before he had seen the spot, or knew where he was to look about for one. At length he fixed on one; 10000. were sent to him as the price to be paid for his discovery, as well as a goodly amount of "free shares," which he at once sold at a quarter of the specified price at which they were to be offered to the public. By these means he netted 15000. in a few months, in addition to his salary, and was looked upon as a shrewd, clever fellow. At last the mask fell; the shareholders found the true character of their pretended friend, that the affected vulgarity was not the bluntness it appeared; that all these appearances were assumed, and that in reality he was a drunken, ignorant knave.

It is a melancholy task yet to draw other portraits of similar subjects, but, however unpalatable, justice must be done; we therefore proceed. A certain captain possessed a mine of untold wealth; the returns were something absolutely fabulous. At length, a noble lord was induced to join the speculation, and allow his name to appear. The company was to be divided into a large number of shares, so as to render the ad objection, a call, absolutely impossible. The wily captain modestly claimed one-fifth of the shares, and 10000. for work done and the lease of the mine, for which he had paid the sum of 1000. After the appearance of the lord's name in the list of directors, the shares, which had been previously but little in demand, were rapidly applied for, when the wily captain suggested that, as they could not possibly ever expend their large capital, it would be true wisdom to lock up the quarter part of the shares until they rose to a handsome premium, which they positively must do as soon as they were in a

position to make their enormous profits evident to the public. An announcement accordingly appeared in sundry papers, stating that no more shares in the mine would be issued, a sufficient sum having been placed in the hands of their bankers to meet all possible contingencies. The bait took, the place was besieged by applicants, the shares soon went from 1/2, and were sold at 3/4, to 3/5, 5/6, each. The captain, since none could be had out of the office, "obligingly" spared a few of his free shares at those quotations, to his most particular friends, however, giving his former customers the preference. By these means he sold all his shares at a premium, and left the country. A few months showed the whole matter to be a rank swindle, meant "but to betray." Many lost their all in this bare-faced robbery, and can painfully testify to the facts of the case, as it is and ever will be alive to their memories, the splendidly engraved scrip being the only thing they have to show in lieu of their bankers' cheques, or their hard cash.

Another picture, and we have done. In this case, also, the appearance of extreme sanctity, good address, grey hairs, and a pair of green spectacles, did wonders. This rare performer affected to have become too old for underground toil, and was, therefore, about to undertake the still more difficult but less laborious task of "mine manager," which would afford him a much better opportunity of seeing things were properly managed. With this view he was determined to commence, *de novo*, a concern he had for years had his eye upon, but which his late engagements had obliged him to defer entering on; he had, however, relinquished all in favour of his favourite scheme (the fact was, he had been discharged for dishonesty), which he felt confident would afford provision for his declining years. He obtained the grant of lease of an old mine sett, and, in company with a confederate, actually played off the horse trick. The silly dupe who purchased the sett found himself minus the sum of 5000., and in possession of a most splendid (or paper) mining sett, with a name a skilful Welshman would be puzzled to decipher, much less to pronounce. The final settlement and handing over the cash occupied a week or two, an arrangement no doubt agreed on by the two knaves. When the second was called upon to take the property off the dupe's hands, his rejoinder was, "Oh, you've been so long about it I've laid my money out in another spec. I haven't got five hundred pence, much less pounds. You've got a valuable property, so be quiet. I'll help you to sell it a profit, if I can." On appealing to the other, his reply was, "You applied to me, not I to you. I know nothing of your arrangements. The property is genuine and good, if you choose to work it; I haven't the capital to do it, and I told you so. You've got the property, and I the money, so both ought to be contented; I am. You may go to law as hard as you like: I defy you."

Our task is now complete, and having shown up so many in their true colours, we may perhaps be allowed again to return to subjects of a more agreeable and useful character. When called upon, we felt it our duty to give the shadows as well as the lights of Cornish life amongst miners. Where there are so many it would indeed be strange if all were virtuous: it would be against a natural law, and we do not claim that even for Cornish character, much as we rejoice in its genuine purity and magnificence.

—GEORGE HENWOOD.

## MINE SPECULATION IN AMERICA.

BOSTON, Oct. 6.—With so limited a number of capitalists who have faith in the remunerative results of mining at Lake Superior, it is not surprising that a considerable decline has taken place during the past four weeks. Speculation in mining shares has ceased, and the quotations are believed to be below their actual values. The returns from the mines for Sept. are not yet at hand. Ingot copper is held at 25 c., four months, without sales.

PITTSBURGH AND BOSTON (CLIFF) declined to \$180. Total product for nine months, to Oct. 1, 1858 tons, against 1571 tons for the corresponding time last year.

MINES.—The announcement of the postponement of the dividend to Feb. 1, 1858, hitherto declared for Nov. 1, depressed the stock to \$55. The necessary employment of the floating capital for providing supplies for the mine, and for the payment of wages, the impossibility of getting their bills receivable discounted in the regular way, and the inability to sell their copper for cash, have rendered this step unavoidable. With no bad debts of importance, and with 2,000,000 lbs. refined copper on hand, or to arrive in the next 60 days, with a mine proved up for some years ahead, and with a management inferior in ability and integrity to none in the country, the shareholders have every guaranty for continued and permanent success. Product for nine months in 1857, 1554 tons, against 1599 tons for the same time in 1856.

DUPLEX, PRIMUS, AND SAYLES.

## MINING IN JAMAICA.

CLARKEON OF JAMAICA—STAMFORD HILL MINE (Oct. 24).—Since my last report on the 9th, no very particular alteration has taken place in any part of the mine. We continue to press forward as fast as we possibly can with our different operations. The ground in the shaft sinking below the 46 is still rather troublesome for working; we are, however, progressing with this work, and expect, if all be well, to be sufficiently deep for the 54 cross-cut in a short time. The lode in this part is at present carrying a quantity of green carbonate of copper. In both the north-east and south-west ends in the 46, the lode continues to present the same appearance and size as for some time past, presenting occasional stonings of iron mixed with muriate. I am glad to say the ventilation shaft is going down rapidly, and the ground still very favourable for sinking. No change in the ground in the 53 cross-cut. —P. C. HARPER.

At WHALEY JAMAICA COPPER COMPANY meeting, Oct. 23, the accounts showed balance in favour of company, including outstanding calls, of 358, 13s. The report stated that the various stopes were yielding good returns. In the dressing department they were daily adding to the amount of ore ready for shipment. Since the shipment of 11 tons of ore on the *Pioneer*, mentioned in the last report, the committee had been enabled to make a further shipment of 17 tons on the *Polka*, making a total export of 130 tons to date. There are now also on the dressing-floors and at Retreat about 15 tons of dressed ore, which will be sent to market as soon as practicable. A special meeting was called for Nov. 6, to take into consideration the financial position of the company, in consequence of the attempt to raise additional capital in England having failed through the depressed state of the money market.

At ELLERSLIE AND BARDOWIE, the Salisbury Plain Mine bids fair to be a most valuable property. The lode is of great power, carrying a branch 3 ft. wide, of yellow sulphuret, and this width is found to increase in depth: 4000 shares had been purchased at par by residents in the island. At a meeting of the shareholders, held on Oct. 23, a very encouraging report from the committee of management was read, from which it appeared that the total shipments of July ore was 25 tons, realising from 107. to 171. 0s. 11d. per ton net. Captain Arthur mentioned that Parry's cross-cut had been driven 70 fms. to Oct. 20, leaving 30 fms. more to intersect the 4 ft. lode, which, if the ground continues as at present, soft and easy for driving, he expects to accomplish in the early part of January, 1858. The balance-sheet showed balance in hand on Oct. 1 of upwards of 2000/., a fund ample for ten months' expenditure at the present stage of the works; but as the committee are desirous of sinking the shaft below the base of the hill, 5000/., will be required in addition to the above balance for the purchase of the necessary working of the mine. Offers had been made, by gentlemen of eminence in mining operations, to inspect the mine, but they considered the condition and results from the mine the best report they could present to the adventurers.

At HOPE (lead), the reports are in the highest degree satisfactory. The lode in the 30 is of enormous width, disclosing one of the most stupendous mineral deposits ever seen. We shall be much surprised if this mine in a year or two does not take its stand among the richest lead mines of any part of the world. It is being worked with laudable vigour and with consummate skill.

RIO GRANDE MINING COMPANY (Sept. 28).—The lode (of which I sent you a stone) in back of Rio Grande is looking well, and I have broken out some good saving work at the pit's mouth: we have 2 tons 10 cwt. of undressed ore. We have another large lode in back of Rio Grande, interspersed with purple copper ore, and judging from its course, I think it is No. 1.—Oct. 5: You wish to know if the vein in back of Rio Grande is worth pushing. I should say, from the appearance of it now, that it will pay handsomely for working. There are other indications in the back of Rio Grande which look very promising. I sincerely hope you will be round very shortly to re-set the mines, and then the directors will be able to judge for themselves. I believe I can show them as much copper ore as can be seen in any one mine in Jamaica.—Oct. 9: The mines are looking well, and I am breaking good ore from the back of Rio Grande, bottom of No. 3, and Brookdale.—Oct. 12: We are still working on Brookdale, where we are breaking rich copper ore. We are also working in bottom of No. 3, in which place we have driven over a good lode of copper ore, about 5 fms. in length, with a rich lode in the end. The indemnity of the weather has prevented the committee, appointed at the last meeting, from proceeding on their intended visit of inspection; but arrangements are now being made with the view to carry out this object as early as possible.—R. HASTIN WILSON and Co.

STAMPS MACHINERY.—Within a few days past there has been erected, and put on trial, at the Cliff Mine, Lake Superior, a new combination, patented by Mr. Samuel Hodge of Detroit (late of Chacewater, Cornwall), for raising stamp-heads. This combination, for its simplicity and economy, recommends itself to all interested in stamp machinery, and especially to those who desire a limited amount of stamp power at a moderate expenditure of capital. Mr. Hodge uses in his combination a head and iron stem, weighing together 1000 lbs. The head is raised by the fiction of two wheels acting on the stem. The fall is caused by the removal of a portion of the periphery of each wheel. This combination gives a uniform fall to the head, which has been long required as a desideratum by mining men. The machine now up at the Cliff Mine has a fall of 3 1/2 ft., the ordinary stamp will only average 16 in. when properly attended. I think Mr. Hodge's machine is well worthy the attention of mining men.—Detroit, Michigan, Sept. 28.

PLYMOUTH LITERARY AND SCIENTIFIC INSTITUTION.—We regret to announce that the whole of the apparatus necessary for the lectures at this institution is about to be sold by Messrs. Skardon and Sons. The value of the articles offered for sale is

## Original Correspondent.

## TREATMENT OF GOLD AND SILVER ORES.

SIR.—In my last letter, I stated "that not a single one of the new machines and processes which have been brought before the notice of the public, during the last 10 years, has been found of any value on trial," and that "the old-established processes are being gradually introduced into the new establishments."

It must not be inferred from this observation that no improvement has taken place in the old processes; on the contrary, improvements are constantly introduced in the manipulations. For instance, the stamps—the system of covered incline planes in their front, and also the planes for the final washing in the lavaderos—have been much improved, as compared with what they formerly were at Marmato; and thus the former poor refuse can now be made available, the entire cost of treatment per ton not exceeding £3, and the remains constantly operated upon, until they become completely consumed, leaving nothing remaining. Again, at the silver mines of Santa Ana, instead of reducing ore of 100 ozs. of silver per ton with 10 per cent. of salt, according to the old system of barrel amalgamation, ore of 250 ozs. of silver per ton, with only 5 per cent. of salt, are now treated with much better results. The operation has been slightly modified to effect this improvement in cost and produce.

Many other improvements might be introduced in our foreign undertakings, and thus render a greater number of them profitable, if companies and their directors were to leave them peacefully to the management of practical men, and not allow incompetent persons to meddle with them. Perpetual interference by parties who know nothing of the business necessarily brings them to ruin and winding-up. Some of the best establishments, both at home and abroad, have been brought to naught solely from this cause. What is still more painful to contemplate is, that those who do all they can to prevent such disastrous results by timely warning are often not only badly treated, but attempts are frequently made at meetings to injure their characters; and also, I am sorry to say, people are sometimes employed to disseminate calumnious reports, so as to make it appear that things went wrong from different causes.

Necessity is, generally speaking, the mother of invention. Let us trust that the present critical time, which requires good management and economy to ensure satisfactory results, will be the means of correcting many of these evils, and that every establishment in future worthy of support shall not fail for the want of proper attention and practical management, or in consequence of their being left in charge of unqualified managers. It is much to be regretted that an establishment like the Mexican and South American should be wound-up, in such a rich country as Chile, where it had such excellent prospects.

EVAN HOPKINS.

Nov. 18.

## THE MINING INTEREST, AND THE SMELTERS' MONOPOLY.

SIR.—In the *Times* Berlin correspondent's letter, in this day's paper, there are the following remarks:—"In Moscow a joint-stock company has been formed for dealing in metals and ores, the professed object of which is to liberate the producers of iron from the power of certain monopolists, who have hitherto made a very unscrupulous use of their exclusive power. To this end the company intends to erect smelting works and foundries."

The miners of Devon and Cornwall have been long and severe sufferers from a similar evil; and I, as one of them, would call the attention of the more wealthy companies to this remedy thus very wisely adopted in Russia, as being thoroughly well adapted to the present circumstances and dealings of our English mines with the smelting monopolists of this country. A deputation from the leading mines should at once hold a meeting, for the formation of the company required, and the result will be, on such an institution being established, highly beneficial to the mining community in realising the returns for their outlay, of which they are now so unjustly deprived.

Nov. 17.

The establishment of the joint-stock company in Moscow was first announced by us on Nov. 7, and further remarked on in the *Journal* of last week. Our correspondent and his friends should agitate the matter, and endeavour to get a meeting convened, that the possibility of forming such an association as that referred to may be considered.—ED. M. J.

## MINING IN CALIFORNIA—THE ARIZONA COPPER MINE.

SIR.—I have read the several articles that have appeared in your *Journal* relating to the Arizona Copper Mine, in the Gadsden Purchase—those written by "Anglo-Saxon," and the answer thereto, by Mr. Allen, the president of the company. As a friend of both parties, I desire to enter the list, and endeavour, if possible, to set the whole matter right before the British public. It is true that the title to a portion of the mine is in dispute, that the card which appeared in your *Journal*, signed by the opposing claimants, was also published in this city; that the said claimants intend to test their rights before the legal tribunals of the country at some day in the future, unless a compromise be effected; that the manner of obtaining possession of the mine by the so-called Arizona Company is substantially correct; that the right of said claimants was only to the single vein that they had opened and partially worked, which was all that they could claim, even under the laws of Mexico; that it was not till after the Gadsden Purchase had become the property of the United States that the Americans took possession of the mine, which at the time appeared to be quite limited in extent, but subsequently was found to extend over a tract of one mile square, and to consist of more than one hundred rich and extensive veins; that, under the pre-emption laws of the United States, which entitles each male citizen to one quarter section, the parties who took possession had the right to pre-empt the four quarter sections, and so exercised it; that, nevertheless, it would have been just, equitable, and right for the parties in possession to have compromised with the opposite claimants, and having failed to do so then, they should do so now. If this should be done, and no good reason exists why it should not be, I am assured, on legal authority, that this mine would be one of the best properties in the world.

Both of your correspondents, therefore, are right, with the exception that the communication of "Anglo-Saxon" leaves the impression that the Mexican claim extends to the whole of the copper field embraced in one mile square, whereas, according to Mr. Allen's communication, their claim, if good for anything, is only to the original vein worked by them, which is only about one hundredth of the whole number already recovered.

Allow me, in conclusion, to remark that the mine is worthy the serious consideration of British capitalists, always provided the outstanding title can be quieted; that this can be done admits of no doubt.—SAN FRANCISCO, Oct. 3. J. H. PARKER.

## MINING SPECULATION—ENGLISH AND FOREIGN.

SIR.—It has now become a question in the minds of many whether the panic (which has been so long looked forward to, and the anticipation of which has so paralysed speculation, that it has been nearly impossible to induce the public to support any description of undertaking, no matter how favourable the prospects nor how legitimate the enterprise) has commenced, or whether we have still to pass through a more trying period before we enter upon that era of great commercial prosperity which invariably follows a time of direful commercial depression.

The commerce, not only of Europe, but of the whole world, with the exception, perhaps, of Prussia, has long suffered from this great difficulty which has been experienced in obtaining capital for the development of undertakings of vital importance in supplying the commercial world with materials for their operations, and England has been the last to feel the effect of this pressure. It is true that the difficulty in obtaining money here has been, perhaps, greater than many other quarters, but this cannot be attributed to any want of capital, or to any internal causes; it has arisen simply from its being necessary to take precautionary measures to prevent a drain from this country, which would ultimately have been productive of the greatest evils. English capital would have been embarked in Russian, French, American, and other foreign securities to a far greater extent than at present; and the credit of the several countries became shaken, English speculators would have suffered more than they did by their ventures in Californian and Australian gold mines.

The crisis must now be considered to have passed in most countries, and, consequently, when the time arrives for offering money at a cheap rate in England there will be an ample field for every description of speculation, and the chances of success will, provided ordinary care be taken in the selection, be considerably increased.

For a time, however, the price of money must be maintained, or it will speedily leave us for those parts where they are but just recovering from their panic; the consequence being that all the care which has been taken to protect the country in general will be entirely nullified, and that we shall at no distant day have a more calamitous state of affairs to bear than against which we have hitherto known.

A large number of companies have already been formed, or are in course of formation, for the development of the mineral wealth of Great Britain, Ireland, France, Germany, the Cape of Good Hope, and elsewhere; and the prospects, of success and the facilities offered by the owners for working are in some instances almost without precedent; but it must not be considered that because England has good mines, all mines in England will prove remunerative to the shareholders, any more than that because a horse is an animal all animals are horses. Indeed, the very fact of a district having good mines should invite the intending speculator to extra caution, since, in too many instances, mines are brought under the notice of the public with nothing but their proximity to good ones to recommend them, and, frequently, when all the details are known, it proves utterly improbable that they should prove remunerative. Although these remarks do really apply in England, in foreign countries they apply with tenfold force, since too often the merits of the mine are correctly set forth, and the adjoining mines are remunerative, and yet there is deception which none but those acquainted with the locality could detect;—thus, a very valuable mineral tract is situated at the foot of the Alps, and has been worked by a company with great success, but now requires a little further capital, from £1000, to £2000, to further develop it, after which outlay no doubt the profits will be satisfactory.

With the knowledge of these facts, the owner of an adjoining property, but situated at a higher altitude, and almost within the district of perpetual snow, whereof he is the undertaker, calls it by a similar name to his neighbour's, states all the profits and the value of his neighbour's property, and by these means induces the public to subscribe all he wants; but he does not say, with regard to both properties, to attempt to move the new producer would be certain ruin, and the whole secret of his neighbour's success is that he can produce metal on the spot, and send it to market in that state, whilst no other party can obtain smelting fuel at any price, or rather, except at a most disadvantageous rate.

The caution thus given does not proceed from any bad feeling, but simply to show that in some places rich mines are valueless, whilst in others poor mines prove remunerative; and also to show that, except in certain rare cases, it is more desirable to speculate in England—a country which we know—than to embark in foreign mines, without making ourselves thoroughly acquainted with the district where the mines are situated. There are, of course, many mines both in France and Germany, which would amply repay English capitalists for their outlay, but as they form rather the exception than the rule, it would appear advisable for Englishmen to

put their faith in England—as it is acknowledged that English mines, as a whole, give quite as large profits as those situated in foreign parts, although the average produce of the ore in the latter may be considerably higher.

A. MARCHANT.

## NEW MODE OF WORKING STEAM-ENGINES, BY MR. T. MAY.

SIR.—The *Family Herald* of this week contains a notice of a paper having been recently read before the British Association, upon a new method of working steam-engines, for which provisional protection has been obtained by Mr. T. May, a copy of which I enclose you, and also the prospectus of an invention patented by me on Sept. 4, 1855, upon precisely the same principle as therein reported, but containing many additional improvements, as regards the condensation of steam, &c.

Should this statement happen to meet the eye of Mr. T. May, it might be well for him, before incurring further expense, to examine the specification of my patent.

W. H. JAMES, C.E.

NEW MODE OF WORKING STEAM-ENGINES.—By a paper lately read before the British Association, it appears that Mr. T. May has obtained provisional protection for certain improvements in the mode of working steam-engines. The engine is composed of a continuous tube, which may be arranged in any efficient mode. The engine is applicable to any of the ordinary uses. Suppose it to be used in a factory; if it is required to reduce the power of the engine, in consequence of some of the work being thrown out of gear, this may be done in two ways,—by reducing the temperature of the boiler, or by reducing the quantity supplied by the water cavity of the slide valve. In the former case, the engine will work less expensively and with less pressure; in the latter, more expensively and with the same pressure at the first portion of the stroke. By this mode of working engines, safety, economy, increase of pressure, and compactness, may be obtained; incarceration prevented, and all possibility of priming removed.

## POSTAL COMMUNICATION WITH AUSTRALIA.

SIR.—Your remarks in the last Number of the *Mining Journal*, on the delay in the arrival of the Australian mails, will doubtless be the means of causing enquiry as to the advisability of continuing the present system. When the Government offered to make arrangements for conveying the mails to Australia, it was stated that an independent line of steamers would be preferred, on the grounds that when conveyed via India, the steamers did not always arrive at the required time. Now, the cause of the want of regularity in the arrival of the mails at Singapore from Melbourne is easily explained. Instead of employing large paddle steamers, screw steamers, with engines of from 200 to 300-horse power, were placed on the station, as if the Australian colonies were not worth better vessels. Now, the distance between Singapore and King George's Sound, through the Straits of Sunda, is only 2700 miles, and a powerful ocean steamer would run over that space in eight days, and to Melbourne in three or four days more. The more direct, and by far the best route, is via Ceylon. The distance from Gallo, the southern part of that island, to the Sound is 3500 miles. The run, therefore, to Melbourne from Gallo could be accomplished in 14 or 15 days, and as the Indian mails arrive as regularly as the Channel steamers, a quick and regular communication might be at once established between Australia and England. Some persons might imagine that the cost of placing large paddle steamers on that station would be too great, but they could not be aware that Government pays upwards of £1,000. for each mail sent to Australia, and the same amount for every mail brought to England. Surely the Oriental Steam Navigation Company would undertake to convey the mails twice in paddle steamers for that amount, and in that case we might look for the arrival of the India mails with the certainty that each ship would bring the Melbourne letter-bags. No one would object to such an arrangement except the shareholders of the company which is so well paid for the use of a fleet of screw steamers, some of which are furnished with engines of just sufficient power for vessels for 700 tons.—*Salford*, Nov. 17.

JOHN DE LA HAYE.

## JOINTS AND CLEAVAGE.

SIR.—At the Royal Cornwall Polytechnic Society's meeting, I see by your *Journal*, Mr. Fox says, "He should like to know, in cases where the walls of mines were polished, whether the surfaces so polished were plain or irregular. They were often found to be striated or scratched, and he had observed in Wales instances where a high polish had been produced on the sides of a 'fault,' and yet those sides were not flat, but, on the contrary, very uneven, horizontally and perpendicularly. In such cases it was evidently impossible that the polish could have been produced by the friction of the two rocks. It would be very interesting to receive from our miners any facts connected with the polished rocks of mines, and particularly whether the surfaces of such rocks were flat or irregular, having protruding and receding surfaces."

Are these the cleakensides to which Mr. Hopkins and Mr. Henwood refer? It appears, if it be so, the question is yet an open one, and by no means decided. If they be, as I presume, the true cleakensides, Mr. Fox clearly proves the smooth polished surface could not have been caused by attrition, or rather friction, as illustrated by Mr. E. H. Fox. This subject deserves further investigation, which it is evidently receiving; and I, Sir, for one wait with some interest Mr. Henwood's views on this subject.

## MINING, AND LAWYER STEWARDS.

SIR.—Your correspondent, "G.," has little need of assistance to suppress the evil of which he complains. He appears perfectly capable of expressing himself clearly, but as the evil he regrets is becoming daily more common, a little help may not be unacceptable. How on earth can lawyers, or any other stewards, or landlords, tell where a shaft is necessary in mineral property? This is the miner's province, and he only can tell when by perseverance he has proved it to be so. No dousing or divining can dictate or point out this mystery. It is folly to throw obstacles in the way of prosecuting discoveries for a few paltry yards of land, when such splendid results as "G." alludes to are in expectation. Had such folly prevailed, would Canon Rogers have derived his splendid revenue from Treasuey? Would the Bassets have received their princely revenues from their estates? They would hardly hesitate to give a premium to such a shaft as that, if they had any land not to be equally valuable.

Let the Huxley worthy proprietor look to this neighbourhood, where (at St. Ives Consols) once little paddocks, worth only 4s. or 5s. per year, yet, at 10s. per acre, for all that, yielded the owner not less than 10,000s.; and that, at the Providence Mine, Mr. Praed receives more than 1000s. a year for less than an acre; and he will perhaps alter his determination. There is no reason why his land may not be equally valuable if necessary, it would be granted.

St. Ives, Nov. 17.

MINER.

## CAPTAINS' JEALOUSY.

SIR.—It is astonishing how little minds are affected by little things, and jealousy is amongst the least of the little. This has been eminently displayed in this locality within the last few days. The captain of a mine whose produce has certainly disappointed the expectations of all concerned hitherto, was sent underground by a party to inspect his neighbour's mine. What his report was I do not know. And this, too, I know, that I have seen both their mines, and that the person condemning the one could not, if his life depended on the stake, show such a stone of ore (and tons of them are to be seen) from his own mine, or to fine a lode, though both are beauties, and rivals for public investment. There is plenty of room for both. Then, why should the one at 9s. 10s., which price has receded to 8s. 10s., hedge up his neighbour's advance from 1s. 10s. to 2s. 1d. Pie upon such paltry, unworthy backbiting; it is a disgrace to the descendants of admirals, and to miners. If the party alluded to has any to sell at 1s. 10s. (he says they are worth 7s.), he may find a purchaser at the Hotel, St. Ives, by inquiring for—*Instructor*.

Nov. 17.

## LADY BERTHA, AND ITS ADJOINING MINES.

SIR.—It is very gratifying to me, as it must be to those interested in the mines of which he complains. He appears perfectly capable of expressing himself clearly, but as the evil he regrets is becoming daily more common, a little help may not be unacceptable. How on earth can lawyers, or any other stewards, or landlords, tell where a shaft is necessary in mineral property? This is the miner's province, and he only can tell when by perseverance he has proved it to be so. No dousing or divining can dictate or point out this mystery. It is folly to throw obstacles in the way of prosecuting discoveries for a few paltry yards of land, when such splendid results as "G." alludes to are in expectation. Had such folly prevailed, would Canon Rogers have derived his splendid revenue from Treasuey? Would the Bassets have received their princely revenues from their estates? They would hardly hesitate to give a premium to such a shaft as that, if they had any land not to be equally valuable.

Let the Huxley worthy proprietor look to this neighbourhood, where (at St. Ives Consols) once little paddocks, worth only 4s. or 5s. per year, yet, at 10s. per acre, for all that, yielded the owner not less than 10,000s.; and that, at the Providence Mine, Mr. Praed receives more than 1000s. a year for less than an acre; and he will perhaps alter his determination. There is no reason why his land may not be equally valuable if necessary, it would be granted.

St. Ives, Nov. 17.

time, has been equally barren in profitable results; for the Purima Hill, "that most costly pasture hill in the whole world," containing the Purima Mines, is yet in debt to the Marquis Company on its "working account." I really, Sir, as a shareholder in each company, begin to fear that it is necessary, in order to arrive at a right conclusion, to read back into the official reports, &c., issued by the above-named boards.

Charles-street, St. James's, Nov. 17.

CHRIS. RICHARDSON.

P.S.—I am sorry to find that Mr. Alison's friends in the Mexican and South American Company did not protest against the exclusion of your reporter at that special meeting, so suddenly called by the directors on the 13th inst.

## DIFFERENCE AS REGARDS THE DISQUALIFICATION OF JOINT-STOCK COMPANIES.

MADE BY THE 7 AND 8 VIC., C. 110 (NOW REPEALED), AND THE 19 AND 20 VIC. C. 47.

SIR.—As the above matter seems to be a point of some public interest at the present moment, I need not, I hope, apologise for trespassing on your columns, while I point out the difference in question. By the 29th section of the 7 and 8 Vic., c. 110, it is enacted (*inter alia*.)—

"That if at any time any director cease to be a holder of the prescribed number of shares in the company, or shall become a bankrupt or insolvent, or shall have suspended payment, or compromised with his creditors, or be declared a lunatic, then it shall be unlawful for any such director to continue as a director, or to act as such, and the office of such director shall be, and is hereby declared, vacant."

By the 47th clause, table B, of the 19 and 20 Vic., c. 47, the disqualifications of directors are as follow:—

"If he holds any other office, or place of profit, under the company.

"If he becomes bankrupt or insolvent.

"If he participates in or participates in the profits of any work done for the company.

"By giving a place in the *Journal* to this communication you will much oblige

Charles-street, St. James's, Nov. 18.

CHRIS. RICHARDSON.

## Meetings of Mining Companies.

## RHYMNEY IRON COMPANY.

The annual general meeting of shareholders was held at the offices of the company, Laurence Pountney-lane, on Wednesday.—Mr. E. J. HUTCHINS in the chair.

The usual preliminaries having been gone through, the directors' report and statement of accounts, of which we subjoin an abstract, were submitted.

The trade account showed—

|  | £ | 23,034 10 7 |
|--|---|-------------|
| Stocks taken June 27 (including mineral raised, iron manufactured and unmanufactured, £3,162, 15s. 5d.; plates and rails on tramroads, |   |             |

a very large lode. A similar occurrence took place at East Bassett, in the 80; when they cut the lode they had a torrent of water. From the small number of adventurers in this mine, there being only 42, and that bulk held by a few, if an important discovery were made the shares would not rise by 14, but by 10. He (Mr. King) had the satisfaction to inform the meeting that out of 101, the arrears of call, 73, had been received since the accounts were made up.

The report and accounts were then unanimously adopted.

The CHAIRMAN stated that the mining was started in 1850, and that there had been 22 calls made, amounting to 14. 1s. 6d. per share. It was suggested that a call of 6s. 6d. be proposed, to make the shares 14. 10s. paid.

A resolution making a call of 6s. 6d. was unanimously carried; as also one forfeiting all shares in arrear of former calls, if not paid within 14 days.

The committee of management were re-elected, and the proceedings terminated with a vote of thanks to the Chairman, committee, and secretary.

#### ROSEWARNE CONSOLS MINING COMPANY.

The quarterly meeting of shareholders was held at the offices, Cannon House, Queen-street, on Monday.—Mr. E. W. SMITH in the chair.

After the usual preliminary proceedings, the secretary, Mr. ALFRED JEFFREY, read the following reports:—

I am sorry to inform you that I have been unable to go underground this week in consequence of ill health, my report, therefore, must be limited. A good lode will always speak for itself; and, I am glad to say, this is the case here. The splendid samples of grey and black ore recently brought up, with the pile of ore at surface, must convince all who have any knowledge of a lode that this is one of great promise. Looking at the soft and cheap ground, the little expense required for dressing the ore, and other advantages associated with the mine, including a large extent of tin ground, I consider few young mines present a more flattering appearance.—JOHN DALE.

I beg to forward you a statement of the work done for the last three months. We have completed the building of the engine-house and boiler-house, and put in the engine and boiler, put down the pitwork, sunk 10 fms. of the engine-shaft under the adit, driven 4 fms. of a cross-cut to cut the lode, driven 10 fms. on the course of the lode and 6 fms. of a cross-cut at the adit level, cut the grey ore lode, driven 9 fms. on the course of the lode, sunk a winze from the adit to the 10, and also driven 25 fms. of the adit level, north from Lambro lode, towards the engine-shaft, and sunk the former shaft on the north lode 8 fms., driven on the tin branch 10 fms., which turned out very good work for tin; we are still cross-cutting, and have found several small branches of tin. Our engine-shaft is down 25 fms. from surface at the 10, the lode is averaging 3 ft. wide; at the western end we are obliged to suspend it until we get it dry, as the water is injuring the black ore; the end will turn out from 1 to 1½ tons of copper ore per fm. At the 10 east the lode will turn out full 1½ ton per fm., and for 8 fms. of the winze sunk, from the adit to the 10, the lode will turn out 1½ to 2 tons of ore per fm. We expect in four or five weeks to sample about 30 tons of copper ore, should we get the dressing department ready.—JAMES RICHARDS.

Since the last bi-monthly meeting the operations both at surface and underground have been carried out with the greatest expedition and economy, the engine set to work and shaft sunk 25 fms. from surface, a 10 fm. level extending east and west on the course of the lode, and a winze has been communicated from the adit to the 10 at all these points, in a lode about 2½ ft. wide, producing about 2 tons of copper ore per fm.; the 10 west is suspended for the present, until the shaft is sunk deeper, so as to drain the end, which done, the ore, being black and grey, can be saved. We have some ore at surface, and are now making preparations for dressing it. The operations on the tin branch have been attended with favourable results.—W. P. CARDOZO.

The CHAIRMAN observed that they would see from the reports that their prospects were most encouraging, and great credit was due to Capt. Richards for the energy he had displayed. In a comparatively short period they had a large amount of work done. He regretted much the ill health of Capt. John Dale, but it must be a great source of satisfaction to them to perceive that his report confirmed the cheerful prospects which were held out to them by the local agent. Altogether he thought they had reason to congratulate themselves on the progress they had made in such a little time, and as soon as ores were sampled he believed their cost would be more than met.

The following statement of accounts for four months, ending with cost for Sept., was then read:—

|   |                    |
|---|--------------------|
| Balance from last account                                 | £373 16 10         |
| Costs and merchants' bills, June to Sept.                 | 1402 11 10         |
| Second instalment for engine                              | 340 0 0            |
| Petty disbursements, &c.                                  | 20 0 0 = £2136 8 8 |
| Aug. 3. By call of 4s. per share on 4096 shares. £312 0 0 |                    |
| Arrears received  | 0 10 0 = 312 10 0  |

Balance against the mine. £1323 18 8

The liabilities are 1418. 9s. 6d., and the assets 1034. 13s. 1d.—leaving actual balance of liabilities, 134. 14s. 6d.

Mr. E. J. WILSON said he had great pleasure in moving the adoption of the report and accounts, and he perfectly concurred in the remarks which had fallen from the Chairman. He believed they had a good mine, and it was only necessary it should be worked with spirit and energy in order to make returns.

Mr. JOSEPH GOSSETT observed, in seconding the report, that the account of Capt. Richards was most cheering, and their prospects for so young a mine gave them the greatest encouragement.

The CHAIRMAN said the next business they had was to settle the call. The balance of their liabilities over assets was 1314.; this they must provide for, as well as for the cost of the next three months. He found this would absorb about 2000. per month. Here he might observe to them, from what he had seen at surface, as well as he had heard from reports, they, he trusted, would be satisfied with the work that had been done; he should, therefore, propose a call of 10s. be made.

Mr. JEFFREY said he represented a large number of shareholders, and he was anxious for the development of the mine, but he thought that if a call of 7s. 6d. were made, they would be able to carry on until returns of ore were made.

A division then took place, when it was ultimately resolved that the call should be 10s. per share.

The CHAIRMAN stated he had examined the register, as well as the accounts; the last had been previously audited by the finance committee; everything was in due order, and he had found them very satisfactory. Their local agent had worked very hard for them, and been most inadequately remunerated, and he thought it only a matter of common justice that his salary should be increased.

A discussion then took place, when it was resolved that the salary of Capt. James Richards should be augmented. A question then arose as to the increased remuneration to the assistant purser, and a resolution was passed that an increase should be awarded to him at the first sampling.

The retiring committee and auditors were re-elected; a vote of thanks was given to the Chairman, which being suitably acknowledged, the meeting separated.

#### CARVATH UNITED MINING COMPANY.

The general meeting of adventurers was held at the offices of the company, Old Broad-street, yesterday.—Dr. ALEXANDER BEATTIE in the chair.

Mr. FOULKE (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.—The following report was then read:—

Now, 15.—The water is drained to the 20, and I have dialled the adit levels and the 10 and 20, both east and west of the engine-shaft. I find the lode in the eastern adit must intersect the lode that has been worked on in the different levels west of the engine-shaft, which may be seen by reference to the plan; and I recommend cutting this lode in the 10, and driving on it both east and west; and this ought also to be done in the 20, 30, and 40, which will open out and prove this lode to a great extent. The lode in the eastern adit has a very kindly appearance for making tin at a deeper level; in the adit it has made rich deposits of tin, but not settled; it is mixed with gossan, spar, and pyrite; we have sunk in the bottom of the adit, and there is a good lode for tin, but the water is too much to keep with manual labour; so we have suspended it for the present: we are stopping the back over this place on the lode; the west end in this level is suspended for the present, and the men put to stop the back of the 30, on the north lode, west of the engine-shaft: we have also put two men to stop the back of the same level, on the south lode; and four men to stop the back of the 10, on the north lode, which will enable us to raise dinstuff for the stamps. When we have forked the water to the 40: we shall be able to put on men also in the 30 and 40, to drive east and west on the course of the lode, and to stop the back: we have in this end a lode, producing the tin. In the back of the western level there is a good lode for 30 fms. in length; and also going below this level, which will be proved by sinking the engine-shaft to the 50, which will take five or six months to complete. The whole of the machinery on the mine is in first-rate order for working the mine to a great extent. The lodes are embedded in easy ground for working, and the mine can be worked very cheap, according to mines generally; and I may say, taking everything into account, this is a good speculation. We have from shaft to shaft 300 fms. in length on the run of the lodes, which is a large field of mining to be carried out. There are more lodes to the north that we have not cut, but are shown on the plan of the mine.—R. HANCOCK.

A statement of accounts, from March 31 to Sept. 30, was submitted, from which the subjoined is condensed:—

|   |                      |
|---|----------------------|
| Balance last audit                          | £609 15 3            |
| Min. cost April                             | 371 6 6              |
| May   | 441 0 4              |
| June  | 331 6 3              |
| July  | 420 13 7             |
| August                                      | 271 0 10             |
| Sept.                                       | 232 19 1             |
| Mr. West's contract for removing the engine | 330 0 0 = £2118 1 10 |
| Ors sold                                    | £397 3 4             |
| Calls received                              | 1520 0 0             |
| Horse-whim sold                             | 7 0 0 = 1924 3 4     |

Balance against adventurers. £1193 18 6

Capt. HANCOCK was in attendance, and explained, by a plan, the present state of the mine; and, as the removal of the engine had been effected, they were now in a position to go down to work.

Mr. West said, that the former situation of the engine compelled them to have 70 fms. of flat-rods, and the present way of working would be found far more economical, as it would save both coal and iron—flat-rods of that length being subjected to continual breakages.

Capt. HANCOCK remarked that, during the time the engine was being removed, they had cleared up the adit, and made a valuable discovery in that part of the mine.

A Shareholder wished to know whether by the next meeting they would be working to profit.

Capt. HANCOCK replied that they could not expect to work at a profit with the recent fall in tin, although he believed they would have done so had that not taken place.

The report and accounts were then unanimously adopted.

Capt. HANCOCK, H.E.L.C.S., said that it appeared by the accounts for six months, that during that time they had sunk 2000.

Mr. CUNYD reminded the meeting that out of that amount they had expended 350. in removing the engine, and that they might have sold 1600. worth more tin had they not been compelled to stop the works.

Mr. BROWN said, it was not altogether the expense of removing the engine, but the required extensive repairs.

The CHAIRMAN observed that they had only sold 300. worth of tin-stuff, against three times the quantity when the engine was at work.

Mr. West said 13 additional heads of stamps had been erected, and he believed if the price of tin were a little better they would be able to pay all expenses without any further improvement.

The CHAIRMAN was of opinion they were now in such a condition that promised,

from the development of the lodes, to be a fair speculation, and worthy of a trial; he would, therefore, propose a call of 7s. 6d. per share, payable by three instalments.

Dr. HUTCHINSON said, he had the greatest confidence in the directors—that they would do the best they could for the interest of their fellow-shareholders. He wished to know what the call would produce?—Mr. FOULKE replied 2400.

Mr. CUNYD explained that it would give them 900, after the payment of all liabilities in addition to the tin sold; and he had every hope that it would not only carry them on, but put them in a condition to prove that they had a good and lasting mine.

Mr. WEST said he intended to represent the Cornish shareholders, who had the highest opinion of the property; and, as a proof, three held 800 shares, himself being one of them. He felt satisfied they had a mine. Let them go on working with the engine they had removed, and he did not think there was a question but that the working expenses would be paid, and a little over. He was of opinion they ought to go on for two or three months in the western part of the mine, and then he would recommend putting a trial engine at the north part, as a small one might be hired at a reasonable rent.

Mr. BROWN stated that, as so much money had been expended by the adventurers, he had applied to the duchy for a reduction of the dues—now 1-18th—and had received a satisfactory reply from Mr. Warington Smyth, but the answer could not be obtained until after the sitting of the next council.

The resolution for a call of 7s. 6d. per share was then unanimously carried.

A vote of thanks to the Chairman and committee terminated the proceedings.

#### KELLY BRAY MINING COMPANY.

The general meeting of adventurers was held at the offices of the company, Anstruther, Mr. JOHN FIELD in the chair.

Mr. KING (the secretary) read the notices convening the meeting, and the minutes of the last, which were confirmed; as also a special meeting called for forfeiting shares in arrear of call, but as every one was paid up, there was no business.

A statement of accounts was exhibited, from which the subjoined is condensed:—

|                                       |                       |
|---------------------------------------|-----------------------|
| Balance last audit                    | £434 3 9              |
| July, mine costs and merchants' bills | 432 19 1              |
| August                                | 476 11 7              |
| September                             | 629 11 7              |
| Law costs, Hoppe & Boyle              | 131 10 4 = £2104 16 4 |
| Ors sold                              | 1257 1 1              |
| Calls received                        | 625 0 0 = 1882 1 1    |

Balance against adventurers. £222 15 3

The following report of Capt. S. James was then read:—

Now, 17.—Since the last quarterly general meeting, a communication has been made from the 125 to the 115 east, by rising and sinking, the air is now good; here we have some profitable tribute ground; the rise is 4 fms. east of shaft, and 7 fms. from the 125 end. The 115 has been extended to within 9 fathoms of the western boundary, and, as the lode is unproductive, operations are suspended. The 45 has been driven west 14 fms., and from the improved matrix of the lode, coupled with our meeting with good stones of copper ore. I think we are on the eve of intersecting the course of ore passed through in the level above. The 35 has been driven west 25 fms., the last 20 fms. of which through a lode that will average 15. per fm., although in some places it has been worth from 20 to 25 fm. per fm., the driving of this level is suspended for a short period. About 1 fm. behind the 35 end west we have commenced a winze, which is already sunk about 3 fms.; the lode continues worth 20 fm. per fm., and we hope to lay up a valuable piece of ground previous to the next general meeting; this winze is 10 fm. in advance of the 45 end west. In the 35 west, 2 fms. west of the above-named lode, we have put up a rise nearly 8 fathoms, and expect to communicate to the 25 in a week, which will ventilate the levels thoroughly; here the lode was worth 12. per fm., for 4 fms. rising, but it is now completely unproductive. About 170 fathoms east we have an excellent new 60-inch cylinder engine; and we entertain very sanguine hopes of discovering much more productive lodes when intersected, as the killas is highly favourable for the production of copper ore; and there is an even course crossing our lodes in this part of the mine, it is possible that it may materially improve the lodes. Watson's engine-shaft is sunk to the 40. The whim-shaft down to within 1 fm. of the 40, and we hope to commence sinking for a 50 in about a month, by nine men; and next month to begin cross-cutting north towards Kelly Bray and other lodes, distant 36 fms.; this will occupy us at least seven months from December setting. As the south lode will be very near the shaft in the 50, it will be preferable to sink it at that level as quickly as possible, and not waste money and time in driving a 40 cross-cut 25 fathoms. During the past three months the following turnwork operations have been done:—To rise from the 125 to the 115 east, 9 fathoms; the winze in the 125 west, 2 fathoms; to rise from the 35 towards the 25 west, 7 fms. 3 fms.; the 35 driven west 20 fms.; Watson's engine-shaft 9 fms.; whim-shaft sunk 8 fathoms.—Total 64 fathoms 3 fms. To the last meeting the turnwork operations were reduced to about 5½ fms. per month, and a full force employed on tribute, by which the reserves were reduced to a very small amount. A discovery took place, and extra hands were employed on turnwork, which, of course, has greatly increased the cost generally; and, on the other hand, I am happy to state our reserves have also greatly increased to the extent of 1000. per month, now being upwards of 3000. worth of ore discovered in the different parts of the mine. I estimate the next three months' cost at from 4000. to 5000. per month, including the stores, dues, &c., and the returns at about 100 tons of ore per month, on the average of the usual quality. As the 125 east (bottom level) is a kindly lode, and wishing to be doing something towards making discoveries in the lower levels particularly, and as the engine is employed at all times, I strongly advise your resuming the driving of this level east with. There are 23 men employed on tribute, at an average of about 12s. in, and you must bear in mind that none of the new discoveries are set on tribute. We have 24 men employed on turnwork and 14 men engaged on sundry work, such as enginemen, smiths and carpenters, trimmers, fitters, and launders. We have on the dressing-floor 46 persons, including men, women, and children in their different departments. Total number of persons employed, 107.

The CHAIRMAN said the mine itself was making a small profit, which he considered would render it unnecessary to make a call. For the last three months it had paid its way, and he hoped the next would give them something on the right side.

Mr. PETER WATSON said the accounts contained a law bill for 1322., which had stood over for years, and which, of course, made a considerable difference in the balance.

&lt;p

affect this mine: had its ore been sold for the late prices, little or no call at the next meeting would have been required—as it is, a call of at least 14. per share will be necessary; this, too, arising in a great measure from the above causes, will throw the captains of this, as well as many other mines, quite out of their calculations and promises. They ought not to be blamed, as, under such adverse circumstances, correctness is impossible.

TRELYON CONSOLS is still looked on favourably, and is making considerable returns. This is a very small sett, but well situated. The shares have lately risen in value.

The great mines of this immediate neighbourhood are the PROVIDENCE MINEs, and to them the price of tin will only decrease the dividends for the time being. The quantity and quality of the tin raised in this mine is astonishing, as is also the curious character of the lodes. The standing lode, as the perpendicular lode is termed, is not the great tin-producing source—of itself it is poor, but at a depth there are eccentric bunches of beds, termed carbonas. These contain deposits of tin that are of extraordinary purity: we saw one in the counting-house yesterday, weighing upwards of 3 cwt., nearly clean black tin. We should like to have begged it for the Museum in Jermyn-street, and told the agent so: this will probably be its destination, as it would be a pity to consign such a stone (being covered with crystallized tin) to the melting pot. On the floors were many tons of wire, nearly solid tin. The mine looks as well as ever, notwithstanding the vast quantities that have been removed; it is in the granite, and like, most mines in that rock, is very dry. Though 15 fms. from the surface, a 36-in. engine does the duty, the lowest plunger-lift being only 3½ inches. The floors are very much confined, and might be much improved. Water for dressing is very scarce: it is intended to alter and improve this department shortly. With this view, the engine for stamping at the West Providence Mine has been purchased, and will be worked where it now stands, the distance being but small. When the floors are complete, the returns may be considerably increased. A calciner should by all means be introduced, as well as some sets of Teague's improved dressing-frames. As this mine affords matter for considerable instruction and encouragement to young adventurers, a few statistical statements and remarks may interest your readers—they may be depended on as facts, being derived from indubitable authority. We purpose at some future day to describe this remarkable mine underground, as it will afford considerable information. The mine was worked on the backs by the old men from time immemorial, and some of their old surface workings may still be seen. It was partially and ineffectually wrought subsequently by two or three other sets of adventurers without success, till at length the present persevering gentlemen took it in hand. They, too, were almost worn out. At one meeting, the principal adventurer, whose call on that occasion amounted to 12000., announced his determination to pay no more—if the mine would not pay its way, it might stop. The mine, for the space of 16 years' continuous working, at an outlay of 12,000. of the adventurers' cash, and 125,000. worth of its own mineral produce, did not pay a dividend; but afterwards let us see its progress and present position. The first dividend was declared in February, 1854:—

|                   | Per share. | 1853.             | Per share. | 1854. |
|-------------------|------------|-------------------|------------|-------|
| February dividend | £0 10 0    | February dividend | £1 5 0     |       |
| May               | 0 15 0     | May               | 1 10 0     |       |
| August            | 0 10 0     | August            | 3 0 0      |       |
| November          | 1 0 0      |                   |            |       |

We now proceed to show the amounts of black tin sold from the above date for two years ending August, 1857:—

|                | Black tin. | Av. price | Dividend            | Amount    | Left in part. | Labour              |
|----------------|------------|-----------|---------------------|-----------|---------------|---------------------|
| Date.          | T.         | £         | per ton, per share. | Received. | £             | per ton, per share. |
| Nov. 21, 1855. | 71 0 0     | 270       | 17 0                | £1 0 0    | £2255 14 10   | £1 0 0              |
| Feb. 20, 1856. | 74 1 0     | 5         | 5247 0              | 0 0       | 990 1 0       | 2245 18 10          |
| May 21         | 63 18 2    | 77 12 0   | 3 4750 0            | 2 503 5 4 | 2342 9 11     | 4 10                |
| Aug. 20        | 59 9 1     | 76 2 6    | 4 4336 15 10        | 428 9 1   | 2256 4 10     | 4 10                |
| Nov. 19        | 58 0 1     | 50 5 0    | 4 4457 18 6         | 153 16 11 | 2519 14 9     | 5 10                |
| Feb. 18, 1857. | 59 6 2     | 83 0 0    | 5 5505 2 9          | 322 13 7  | 2542 5 6      | 5 10                |
| May 20         | 70 0 1     | 81 10 0   | 5 5458 14 9         | 111 4 8   | 2890 0 0      | 0 0                 |
| Aug. 19        | 73 6 0     | 75 10 0   | 4 5291 2 3          | 192 7 1   | 2572 2 10     | 0 0                 |

Here, then, we think, is ample proof of what perseverance can accomplish. Read this, O ye discontents!—12 years without a dividend, and an outlay of 140,000.! We commend these remarks to the consideration of the grumbler who expects, because they embark the misfortune of 10 in a mine, that they ought to have it all back in dividends in a year or two, or otherwise the mine must be worthless. We pray you, take heart, and fear not—you have as good a mine as the Providence, if you will have the patience that these adventurers have had. We appeal now to the men of Leeds, who are dissatisfied because their mine, forsooth, has returned 10,000. worth of ore in four years, and has not paid a dividend, though they have expended 12,000. besides. Fear not: such examples as the present are intended for such persons as you. On your mine is as much machinery as on the Providence, and it looks better at the same depth. Fear not, any of ye fainthearted gentlemen—in any part of England, mining, if persevered in and properly worked, will in nine cases out of ten pay, and pay well; but scratching at the surface for a few fathoms, and, if wealth be not found, commence quarrelling, is not mining, but downright waste of money. The management of this mine is greatly indebted to the persevering industry and ability of the late Capt. Penberthy, who died just as the mine had attained its property. He was succeeded by Capt. Philip Dunstan, who carried on the works with vigour and confidence: this gentleman purchased largely in the mine before it became so rich, and has now retired to enjoy his well-earned *olium cum dignitate*. The present manager is Capt. Arundel Anthony, who, although but slightly educated, has prepared himself to fill this responsible situation. We had the pleasure of inspecting some parts of the mine, executed by him, which would have done honour to a Mining School education, or to the Hydrographer to the Admiralty. We begged him to execute one for the Jermyn-street School of Mines, and believe we succeeded. It will then be practically seen whether or not we have such men for captains, as we have described, and that all are not "Bal Sellers" or "Knavish Captains," as they are often said, and too often believed, to be.

EAST PROVIDENCE MINE is situated close adjoining the great Providence, now so rich, being merely divided by a rivulet. It is highly probable this may make as good a mine as its neighbour in depth. The burrow now on the shaft, sinking close to the edge of the sett, near the Providence Mine, is of the most promising character for tin. The colour of the ground and nature of the strata is all that can be desired. The sett is surrounded by good mines.

THE GUNARDS HEAD MINE is situated in exactly the same strata as Le-

vant, Botallack, and Carrack Dhu. It was worked about 20 years since. After the

success attendant on these mines, it is surprising no attempt has been made to re-

claim this mine, where considerable quantities of work have been executed by the

former workers, which would be available to a new company.

ASHBURTON UNITED TIN AND COPPER MINES.—We are pleased to hear

Mr. Nicholas Ennor is progressing well in bringing out these mines, notwithstanding the depressed state of the money market. We are informed that a provisional com-

mittee is to be appointed forthwith, and bankers named to receive the deposits, when

operations will commence, and the mine be vigorously prosecuted. We would observe,

that this piece of ground must undoubtedly hold out more than ordinary chances of suc-

cess, or Mr. Ennor's opponents would certainly attempt to depreciate it; but no one

has attempted to do so—indeed, on the other hand, surprise is expressed that a sett

containing 10 lodes, one of which having yielded half a million's worth of tin and cop-

per, should have remained an hour unworked. The mine is now only 60 fms. below

a shallow adit, and can be again laid open, the water forked, and ore prepared for the

market, in six months after the engine is commenced.

NORTH TRELETHET MINE (Padstow).—The adventurers seem likely to

have a valuable property here. Their lode, which runs north and south, is carrying

a branch of solid grey ore, 3 in. thick, at a depth of only 5 fms. The amount of mal-

earable copper is also surprising: they have only carried on operations for about five

months, and will sample next week, we believe, a valuable parcel of ore.

NORTH LEVANT.—The engine-shaft is worth 200. for the length of shaft,

12 ft. long—sinking for 12. per fm. No. 1 stopes is worth 81. working at 4.; No. 2

ditto, working at 5.; and No. 3 ditto, 51., working at 31. These stopes are

west of Borlase's shaft, under the middle adit; the lode in Borlase's shaft, sinking

under the middle adit, is at present rather disordered. They intend to resume stop-

ing east in a month, when they will shortly get under the run of tin ground where

the lode has been worth 12. per fm. The lode in the deep adit is worth 12. per

fm., the stopes in the back are worth 13. They expect to communicate the engine-

shaft with the deep adit in six or seven weeks from the present time. The carbona,

in the back of the middle adit, east of Red Barrow shaft, is worth about 10. per fm.

THE LADY BERTHA MINE continues to improve. There is a good lode

in the eastern end in the 20 fm. level, worth fully 3 tons of ore per fm.; this is an

important feature, there being some hundreds of fathoms of ground to the eastern

boundary. The lode in the western end has also improved, and is now worth 2 tons of

ore per fm. A very good lode has gone down in the bottom of the 20. In the 30

there is a fine strong lode, 14 ft. wide, and not yet cut through.

AT BOSCEAN MINE, the 64 east, on the new north lode, is opening good

ground, lode varying from 2 to 3 ft. wide. The 100 east, on the spar lode, is also

in good tin ground, lode about 1 ft. wide.

ALFRED CONSOLS never looked so well as at present, and they are ex-

pecting to cut the rich lode in the 140 hours. When this is done a greater rise will

take place in the price of these shares than ever was known.

WEAL EDWARD will pay 5s. or 6s. dividend next account. They will

soon return to resume sinking the shaft, where the lode is worth 200. per fathom.

Capitalists would do well to have a peep here.

WEAL ZION.—The case of Stockwell v. Lord Clinton and Jeffreys has

been removed, on the application of Mr. Berry and Mr. Lewis, solicitors to the de-

fendants, by *certiorari* to the Court of Queen's Bench. These gentlemen attended

before Mr. Justice Crompton at Judges' Chambers, previous to making the order for

the writ to issue. His lordship asked if it was the fact that the matter had been fully

enquired into before the Lord Mayor? Mr. Berry replied that it had already been

thoroughly investigated, and the charge, after two examinations, dismissed: that the present indictment was a mere echo of the accusations preferred by Mr. Stockwell at

the Mansion House; whereupon the learned judge at once ordered the proceedings

to be removed into the Court of Queen's Bench. The case now, at the instance of the

defendants, as early as the course of practice admits, will be tried by a special jury. It must be remembered that the bill found by the grand jury was merely on an *ex parte* statement, the defendants had no opportunity of disproving the allegations preferred

there, or even knowing what they were. We had thought the case was disposed of at the Mansion House; it has, however, now been removed to a higher court, and the public will again have an opportunity, elsewhere, of hearing the details of the

transaction and the examination of the witnesses in this singular prosecution. If there be nothing more adduced than is already before the public, it is deeply to be de-

splored that such proceedings should take place—tending, as they do, to throw such

disrepute on mining enterprise.

MINING IN IRELAND.—We are informed that several copper lodes of

great promise have been discovered on Lord Clinton's property, on the north side of

Crookhaven Harbour; and partial trials have been made, with a view of testing their

capabilities; and, as far as these trials have been carried out, it is considered by com-

petent judges, by judiciously applying a moderate capital in their development, that

it would be of incalculable benefit to the employer and employed; and, as

the lodes on this part of his lordship's property are both numerous and promising, it

is to be regretted that further trials are not made. However, it is to be hoped, ere

long, that proper attention will be directed to this valuable mineral property; and

also that active operations will, under proper and efficient management, soon com-

mence. It seems, from unmistakable indications, that mineral on both sides of Crook-

haven Harbour is more than ordinarily prolific.

MEMS. OF MINES AND MINERS.—No. XXII.

Capt. PHILIP DUNSTAN (Trelyon village, near St. Ives) presents in his person a *viva voce*—one who has enough of the good things of this world, earned by his own abilities, and knows it. To men like these we are glad to refer; it is a far more palatable task than describing "Knavish Captains." We are not so much given to the *ad captandum* as to prostitute our pen to pander to depraved taste; we prefer the more dignified path. We have written enough of the vulgar as examples, and now we claim to enjoy our own way. We do so with more pleasure in this instance, where, as we have no doubt, virtue meets its just reward. The subject of our memoir was not a native of the locality of his labours, but came from a mining parish near Camborne, that fountain-head of mining: there he drank the bitter waters of experience all must quaff ere they be qualified to become what he was—a thorough-bred miner and manager. No dandy is he, no be-whiskered professor, but a plain, unadorned Cornish miner. After this eulogium and eulogium, it will be asked, what has he done? Well, we will tell in a few words. After Capt. Penberthy left the Providence Mine, and before it was anything like what it is now, Capt. Dunstan was called upon to take the management, as the best man that could be procured. With some hesitation, and after considerable persuasion, he undertook the responsibility, to what purpose the state of the mine at his retirement is the best evidence. The Providence became, and is, one of the best tin mines in the world. Good fortune and good management nay be synonymous, but they are not so. In some cases, ever so great care and watchfulness end but in misfortune; but, where both are combined, this seldom happens—witness the result we now pourtray. We must admit that good fortune is a far more dangerous companion than misfortune, though for a time the more agreeable sister; the one teaches economy, the other, too frequently, extravagance. In Capt. Dunstan we have the golden medium; he dispenses his well deserved independence in a manner becoming a man who has won it—generously, but not ostentatiously. Amongst the miners Capt. Dunstan's departure was exceedingly regretted; to his employers it was a source of gratification, as they were anxious he should enjoy his later life in that comfort his busy, toiling youth so richly deserved. To him young miners may look with hope that they too, like him, by practising the cardinal virtues may be his followers in the paths of fame and fortune. It must not be supposed from the foregoing that the Captain has not had his crosses and severe trials; these he has had, and hard work to boot. There is no royal road to mining celebrity and fame: rough hands and supple shins must be theirs who pursue this business. Dangers, too, they must not fear, for they are many; and when we witness a gentleman who, yet in the early autumn of life, is entitled to retire from such scenes with honour and with wealth, we have a right to sing *peasants*, and we do so. We wish the instances were more numerous than they are. As a practical miner, Capt. Dunstan has proved himself competent; as an adventurer, bold; as a master, kind; as a gentleman, liberal—indeed, in all the phases of character he has proved himself of a superior order. He enjoys the confidence of his neighbours, the respect of his acquaintance, and the blessings of the poor. To these we commend him, with a sincere hope that he may long live to grace the situation in life to which he has been

CASTELL.—J. Lester, Nov. 16: The part of the lode working upon continues much the same, if anything, a little more lead ore in the east stope, which we are saving to dress by itself. The carriage of the blends is let at 8s. per ton. I am going this day to look at a store-house at Aberystwith to put it in; I believe we can have part of the one used by the Edgar Mwyn Company.

CARVANNALL.—W. Roberts, Nov. 17: Nothing new to report this week.

CEFN CWM BREWYNO.—Nov. 17: The north part of the lode is intersected in the cross-cut south from Taylor's shaft, in the 50, and we have cut it into about 3 feet. There is a good branch of ore for about 8 inches wide on the north wall, but we have not reached the south part of the lode as yet. There are several strings or small branches of ore still intermixed throughout the lode as far as seen; we have cut into it, and the ore is quite free from blends, but the lode is underlying very fast, and as soon as we have cut through it we shall commence to drive westward on its course. The lode in the 50, west of Taylor's shaft, is large, and of a promising appearance, now yielding 15 cwt. of ore per fm.; the lode in the 50 east, same lode, is yielding 14 cwt. of ore per fm.; the lode over this level, 40 fms. west of shaft, is 4 ft. wide, producing 1 ton of ore per fm.; the lode over the same, 20 fms. west of shaft, is yielding 15 cwt. of ore per fm. The lode in the 50, driving east of Taylor's shaft, is 3 ft. wide, containing a little ore, but not to value; we must push on this level eastward in order to prove the run of ore ground goes down in the bottom of the 50, which is still in advance of the 50; the stope over this level, 25 fms. east of Taylor's shaft, is producing 10 cwt. of ore per fm.; the lode over the same level, 15 fms. east of shaft, is yielding 14 cwt. of ore per fm.; the lode in the stope over this level, 60 fms. west of Taylor's shaft, is 4 ft. wide, yielding at present 10 cwt. of ore per fm. The lode in the 44, driving west of Taylor's shaft, is 3 ft. wide, with a kindly appearance, now yielding 15 cwt. of ore per fm.; this end is now got to the west of the slide, and I think we shall now open out some ore ground in that direction; the stope over the 44, east of Taylor's shaft 25 fms., is producing 18 cwt. of lead ore per fm.; the stope over the same, 25 fms. west of shaft, is yielding about 13 cwt. of ore per fm.; the stope in the bottom of the 44, west of shaft 50 fms., is yielding 15 cwt. of ore per fm. The cross-cut north in the 20, east of Taylor's shaft 4 fms., is progressing favourably. There is a great deal of water coming out of the present end, and we hope we are getting near the lode. The dressing, &c., with all other things here, are going on regular.

CLARA.—S. Trevelyan, Jun., Nov. 18: The water from the old mine in the 15 is drained, and we have found the deepest part of the mine; we have commenced raising against it, or boring against it with a long borer, and expect in a few days to hole to the above-mentioned winze of the old mine.

COLLACOMBE.—S. Michell, Nov. 17: During the last week the rise in the back of the 72, west of the western shaft, has been put up 6 feet, and the lode is worth about 1½ ton per fm. The 72, west of the western shaft, has been driven 6 feet, and the lode is of a highly promising character, being composed of soft quartz, prian, capel, and about 1 ton of ore per fm. The 40, west of the western shaft, has been driven 4 ft., and the lode worth 1 ton per fm.

COLLEGE MINES.—A. Braithwaite, B. Tucker, Nov. 16: In the 20 north, on the blue lode, we are now in about 5½ fms., the ground is much easier, and more congenial for lead. The 20 north, on the Red lode, is just the same as last reported; we are now in 2½ fathoms from the shaft—a fine-looking lode. The 20 south is improved; a large lode, with fine stones of lead and a good stream of water.

—Copeman's Winze:—The men were set to work again on Tuesday last at our price per fathom. The men were sinking on the floor part of the lode; we met with stones of lead, but not rich. The 10 north continues to improve; small stones of lead are met with, but they are not very numerous. The 10 south is just the same as last reported—a continuation of fine stones of lead. The tributaries are getting fair wages. The tribute pitch in the back of the 10 south has so much improved that if it continued in its present state we shall have from this pitch about 3 tons of lead by next survey day. We have 5 tons of ore in casks ready for sending away.

CWM ERFIN.—The lode in the 57, going east of the drawing shaft, is much of the same character as when last reported, but its bearing is a little more north, which answers to the workings in the level above. The lode in the winze sinking below the 45, about 10 fms. east of the cross-cut, is from 2½ to 3 ft. wide, yielding, at this date, 10 cwt. of lead ore per fm. I should remark that the lode has been disordered within the last few days by one of those flats that have been discovered within the 45, going east of cross-cut, is 3 ft. wide, composed of clay-slate, carbonate of lime, blende, and lead ore, yielding 1 ton of lead per fm. The stope in back of the 45, and named in my last as east of the junction, has been suspended, in consequence of nearing the old north workings. The stope over the back of the same level, east and west of the cross-cut, has improved; lode from 6 to 7 ft. wide, yielding from 12 to 15 cwt. of lead ore per fm. The stope over the back of the same level, east and west of the cross-cut, continues to yield 25 cwt. of lead ore per fm. The lode in the 52, going east from the cross-cut, is 3 ft. wide, composed of clay-slate, spar, blende, and lead ore, yielding of the latter 1 ton per fm.; the same level, proceeding west from the cross-cut, is in a lode 2 yards wide, yielding from 12 to 15 cwt. of lead ore per fm. A rise has been started in the back of the 52, over the cross-cut; lode from 3 to 4 ft. wide, yielding 15 cwt. of lead ore per fm. We sample, on Tuesday next, 20 tons of good quality ore, being the produce for one month.—Nov. 17.

DALE.—R. Nines, Nov. 19: Since my last we have had a slight hindrance in the winze sinking below the 32, but we are now going on very nicely, and have within the last day or two cut some nice branches of lead leading to the pipe vein, which is a good indication of richness as we go down. No. 3 lode, in the 32 south, is at this time looking very well, and yielding good ore, much better than it has ever done before. The 26 south on this lode is very much improved within this last week, and is producing occasional stones of ore, and has every appearance of being equally as good as the 32, when we get into the same ground. The stope on Johnson's lode, in the back of the 26, as well as the end, are without much alteration. We have at this time two pitches working in the back of the 13, one of which is yielding good work.

DEVON AND CORNWALL UNITED.—T. Neill, Nov. 17: On Saturday last, our setting-day, the following bargains were let:—The 40 to drive north on the cross-course by four men, stented the month or cut the lode, at 34, 5s. per fm. From the indications on the eastern side of the cross-course I think we are near the lode, the killas being mixed up with branches containing peat, mundie, &c. The cross-cut to drive south at Bastard's level by six men, stented 2 fms., or cut the lode, at 8s. per fm.; the ground continues to look favourable for a good lode when intersected. A stope in back of Bastard's level, west of rise, on the north lode, to stope as directed by six men, stented the month, at 54, 10s. per fm.; lode in this stope 7 ft. wide, worth 8 tons of ore per fm. There are also four men cutting through the lode for stope in this rise, stented 2 fms., at 77, 10s. per fm.; the lode is of the same character and production as that in the stope. The north lode to drive west on, in the Midway level, by four men, stented the month, at 124, per fm.; lode 6 ft. wide, worth 8 tons of ore per fm. The north lode to drive east on, in the Midway level, by six men, stented the month, at 124, per fm.; lode 6 ft. wide, worth 4 tons of ore per fm. A rise in back of the Midway level, on the south lode, by six men, stented 2 fms.; the rise to be carried 19 ft. long, and all the lode, which is 5 ft. wide, and producing 4 tons of ore per fm. A rise in back of the Midway level, on the south lode, by four men, stented the month, at 54, per fm.; lode 4 ft. wide, worth 4 tons of ore per fm. The middle adit level, to drive east on the north lode, by two men and two boys, stented the month, at 54, 10s. per fm.; lode 1 ft. wide, worth 2 tons of ore per fm. A cross-cut to drive north on the cross-course, from the north lode, by one man and one boy, stented the month or cut the lode, at 34, per fm. From the general appearance of the cross-course, and the quantity of material issuing from the end, I anticipate finding a larger lode in driving this level. A cross-cut to drive north from the south lode by one man and one boy, stented the month or cut the lode, at 34, 10s. per fm.; this cross-cut is 80 fms. west of that driving from the north lode; and there are two objects in view in its prosecution—proving the lode now driving on in the eastern end, so much further west, and also proving whether the north lode, as seen in Bastard's and the Midway levels, holds up to this point. The lode is to sink in bottom of the mid-level, on the south lode, by two men stented 2 fms., at 34, per fm.; lode about 3 ft. wide, worth 1 ton of ore per fm. William and Mary adit levels to drive west by six men, stented 2 fms., at 82, per fm.; lode about 3 ft. wide, and looking very promising. All the trammimg, wheeling, filling, and landing in the mine by 11 men, for the month, at 29s.

DEVON BULLER.—Wm. Neill, Nov. 19: Saturday last being our pay and setting day, the following bargains were set:—The 56 to drive west by six men, at 34, per fm.; the lode in the present end is very much disordered—much of the same character as the 44 before driving 10 or 12 fms., where the lode became settled. The 44 to drive west by four men, at 54, per fm.; lode 1½ ft. wide, containing a quantity of mundie intermixed with spots of ore; the rise in the back of this level, for communication to the western shaft, by one man and one boy, at 24, 10s. per fm. The stope in the bottom of the 32, west of the western shaft, by four men; lode producing 1½ ton of ore per fm. The 32 to drive east by one man and one boy, at 24, 10s. per fm.; lode 1 ft. wide, yielding stones of ore. The stope in the back of the 20, west of the western shaft, by two men and two boys, at 17, 7s. 6d. per fm.; lode 2 ft. wide, intermixed with ore throughout. The 20 end to drive west by one man and one boy, at 24, 10s. per fm.; the lode in the back for the last 9 ft. has been disordered by a cross-course, but is again becoming settled, and there is no doubt of its becoming its regular size, which has been the last 9 fms. about 2 ft. wide, producing ore more or less throughout—a very promising lode.

DEVON BURRA BURRA.—J. Lord, Nov. 19: We have cut through the lode in the eastern end, which is 12 ft. wide, letting out a large stream of water. This has lessened the water at White's shaft one-third. We are driving on the south part, which is much easier than the north, and is showing more ore. We find rich spots of grey ore in the lode. There is no doubt that as we drive east we shall find some rich deposits. No lode taken down in the stope for the past week. The ground at the engine-shaft is much of the same character as it has been; the part of the lode here we are carrying is composed of strong capel and spots of ore.

DEVON GREAT ELIZABETH.—W. Williams: The lode in the end driving west is just as last reported. The water has become so quick in the shaft we are obliged to suspend operations for the present. We are engaged in dressing the ore at surface with all the speed possible.

DOLWEN.—F. Evans, Nov. 16: We have now to put up a balance-beam to bring the rods up over the mountain from the wheel, a few days will complete this, and put it in good working order; there being ample power in the wheel, there is no fear of it not working properly.

EAST CARN BREA.—T. Gianville, Nov. 18: Nothing new to report this week.

EAST FOWTY CONSOLS.—J. Dale, Nov. 16: The cross-cut is now extended 20 fms. 1 ft.; the ground has recently improved, and is now producing spots of yellow ore; it is letting out more water than we have ever seen since its commencement. The flow of the time is not far distant when we shall be able to report that the lode is cut. The engine-shaft works well, and the consumption of coal is very little.

EAST HENDER.—N. Clymo, Nov. 17: We are sinking under the adit, and are about down 5 fms.; the lode is 3 ft. wide, producing good stones of copper ore, and a great deal of mundie. The appearance of the new lode, west from the west shaft, is very encouraging at such a shallow depth—producing stones of ore. We shall take down the lode to-morrow, and I will report fully thereon next week.

EAST PROVIDENCE.—W. Hollow, T. Uren, Nov. 17: The engine-shaft is cutting down below surface by two men, at 36s. per fm. The eastern adit is driving west by four men, at 45s. per fm.; the lode here is 2 ft. wide, composed of spar, capel, and prian, producing tinstuff of low quality; it has a very beautiful appearance, and a more promising lode to the depth it is wrought on cannot be seen in the St. Ives district; it is our firm conviction it will yield rich tin at a depth. Wheal Mount adit is driving south from Chapel shaft, on Conforlode, by four men, at 6s. per fathom; the lode is improved in size and quality; it is 12 in. wide, worth 3s. per fm. This adit is also driving west from Chapel shaft on the Standard, by two men, at 30s. per fm.; the lode here is 18 in. wide, producing low quality tinstuff.

EAST ROSE WARNE.—John Delbridge, Nov. 14: In the past week the shaftmen have been easing and dividing the engine-shaft from the 22 to the bottom of the shaft; in future we intend drawing the shaft daily from the bottom. In the 20 east the lode is 1 ft. wide, yielding a little ore, not to value. In the 22 west the lode is small and poor; in the 22 west, on north lode, the lode is in two parts, 6 in. of the north part

is a good branch of ore; in the 22 east, same lode, the lode is 1 ft. wide, tributary ground. In No. 1 winze there is a good lode 10 in. wide. In No. 2 winze the lode is 1 ft. wide, stones of ore. In the 12 end the lode is small and poor. In the 8 we have tributary ground. In the south adit no change to notice. In sinking the west shaft from the 12 to the 22 the ground is favourable. We purpose sampling about 50 tons of copper ore on the 24th inst. We have carefully looked through the pitches throughout the mine to-day, and calculate, from present appearances, to sample the same quantity (50 tons) in two months' time, which will be in January.

EAST WHEAL FALMOUTH.—W. Burrows, Nov. 18: The summen are engaged cutting a plat in the 30, but we have not seen the east lode there yet. The 20, north end, is suspended to put a cross-cut west to cut the old lode. We have from 2 to 3 fathoms cross-cut to intersect the old lode that Northey's winze is sunk on. Deep's stope, in back of the 20, are worth 15 cwt. of lead ore per fathom. Chenall's stope, in bottom of the 10, are worth 3 tons of lead ore per fathom. Gray's stope, on Chenall's lode, are worth 5 cwt. of lead ore per fathom. Northey's winze is discontinued until the cross-cut is under to let down the water.

EAST WHEAL ROBERT.—R. Collom, Nov. 19: The rise is now up about 3 fms. The lode has not been so good lately as it was, but the ground is favourable for rising, being set at 20s. a fm.

EAST WHEAL RUSSELL.—John Goldsworthy, Nov. 19: The ground in the 85 is somewhat shore spare for driving. The lode in the 65, east end, is split into three parts in the back of the end; the branches have come together in the bottom for about 3 feet high, and the lode is of a very promising character, worth about 2 tons of ore per fathom. The stope east of Williams's winze is worth 3 tons of ore per fathom. We have set a stope west of Williams's winze, by six men, in which we have not stripped down any of the lode, but shall do so in three or four days, when I hope we shall have a good lode. The tributaries in the bottom of the 85 in sinking have met with a good lode of copper ore, worth from 2 to 3½ tons per fm. of good quality ore. Nothing new in any other part.

EAST WHEAL TOLGS.—The lode in the 46, driving east of the engine-shaft, on Redruth Consols lode, is without any alteration to notice since last report. The lode in the 34, driving east of the engine-shaft, is 1 ft. wide, consisting of spar, jack, and good stones of ore, and is promising in appearance. The lode in the 22 fathoms level, driving east of the engine-shaft, is 2 feet wide, containing some stones of ore. The lode in the 12 fathoms level, driving east of the engine-shaft, is 13 inches wide, yielding 1 ton of ore per fm.

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a lot of ore when we get it well ventilated, and a fire-whim to heat away the stuff. I do not like to say too much, but I am not afraid to challenge any mine in Cornwall to break two samples of better copper than we can in our 70 and 80. As to our not sinking the shaft, I do not think we are wasting time. You well know that when a shaft is down to any level it must be divided and raised down, lift fixed, footway put in, old penthouse taken out, and new road put in, to make that level safe: that was our last month's work. Now, before you begin to sink, you must have a shaft and winze-plate cut, brow cut down, penthouse put in, fork sunk, or place for cistern, and ends driven away, that you may not blow down your windlass by blasting. Now, you will see we have not been idle this month. We shall open 7 fms. of ground, cut shaft-plate, and sink part of the fork. I well know that we have no time to lose, for I believe there is plenty of copper deeper; we are only just upon the top of the ore.

Nov. 14: We shall begin to take down the lode in the 70 on Wednesday next, and also in our 82.

PENTRE LYGAN.—A. Francis, jun., Nov. 19: At Woodland's shaft we have penetrated the rich bearing Chert, which from its character, being strongly impregnated with minerals, indicative of a body of ore, leads us to encourage sanguine hopes when we intersect the veins, so profitably worked to the west of our boundary. One of the before-mentioned veins we judge from appearances must be near the shaft, so that we may in a short time have to report good news.

POLBREEN.—Nov. 17: We took down the lode in the 22, east of Dorecas's shaft, at night for the first time since setting day, but I am sorry to say it is very poor; this is the first piece of lode that we have had in this end since we commenced that will not pay for stopping; there is still a strong capel in the end, but no tin in it. Tregay's lode in the 12, west of sump, has been small, about 2 or 3 in. wide, until the last few days; it is now larger and harder, so that it will stand to drive by the side of it in the killas. We expect this lode to open wider from the appearance of it in the end, it is pretty good work, and the ground looking very kindly. There is no lode worth noticing in the 32, east of sump, yet. The ground in the 22 cross-cut, south from sump, is still good, but no lode yet; I think we must be getting pretty near it. The winze on Tregay's lode, under the 12 west of sump, is down to within a few feet of the 22, and as it is rather expensive for sinking now it is down so deep, we have discontinued sinking it, and have put the men down to cut some ground in the end of the engine-shaft for a plat, &c., to prepare for driving the 22 to cut the lode, which is very near, and then drive on the course of it; this lode has not yet been seen anywhere in the 22, it is small in the winze under the 12, but is very good work. We intend taking the men from the 32, east of sump, and put them to drive the 22 west, on this lode, and take the sumpmen (who are now cutting the ground to prepare for driving the end) to prepare for sinking Dorecas's shaft. We have now five pairs of tributaries at work, four of them are working well and, we think, getting wares (this is in the old ground). The stamps are set to work on the burrow stuff to begin with; we want to fill up the crevices and loose ground before we begin to stamp the work, it being all new ground plenty of the tin would get down in it. The water is as yet very small, nothing like enough to work half the heads. The stamps to the head of us have not yet begun to work, and their heads on that account are left full, and grown together with grass, &c., consequently the water is flowing over the banks in every direction, and if they do not begin soon I think we shall be able to get a supply from another source.

PRIDEAUX WOOD.—J. Puckey: At this mine we have been able from the influx of surface water to drain it, and resume the working. The only thing new of note to mention is that the ground in the 51 end east is become much easier for driving, consequently we shall soon get under the tin ground in the level over.

QUEEN OF DART.—P. Hawke, Nov. 17: Saturday last being our setting-day the following bargains were set:—The 30 to drive west by three men and three boys, 2 fms. or the month, at 71. 10s. per fm.; the lode in this end is about 10 inches wide, and unproductive, but presents a kindly appearance, and lets out plenty of water. The east end in this level I have suspended, in consequence of the lode being small and poor. We shall, by continuing the sinking of the boundary shaft, prove the value of the piece of ground that the 30 east has been driving towards, therefore the sum that would be required to drive it will be saved, particularly as the end is at present poor. The 20 east to drive by three men and three boys, 1 fm. or the month, at 91. per fm.; I find the ground here to be more favourable for driving, and a reduction of 31. per fm. has been made in the price, and a greater one still is likely to take place; the ground is much easier, and promises further improvement. The lode at this point is 6 in. wide, composed of capel and spots of copper ore, but not to value. The stope in back of the 20 are exhausted, a horse of killas having divided and split up the lode; the stope has been offered to parties to work them on tribute, but refused. The boundary shaft to be sunk by six men, 1 fm. or the month, at 104. per fm.; the lode here is 1 ft. wide, composed of spar and copper ore, but of little value. We are progressing with the dressing, and hope to get carted to Tornes by Saturday night 30 tons of copper.

REEDMOOR.—T. Taylor, Nov. 16: Since last report we have taken down the lode in the 20, which is a little improved, yielding about 6 cts. of lead per fm. The lode in the 70, on Kelly Bray, is not so productive as when last reported, owing to some branches which have crossed the end, the lode at present is small. We have put the men who were clearing up the old working between the 70 and 80 to rise in the back of the 80, as there is a greater advantage in putting away the stuff. We have about 4 fms. of whole ground to rise through; they have a good stone of ore in the back. The building of the whim-houses and other works are progressing as favourably as we can expect.

ROSEWALL TAMAR.—J. Cook, Nov. 16: There is no alteration since my last report.

ROSEWALL HILL AND RANSOM UNITED.—Paul Roach, Nov. 18: Since the 11th inst., we have built 5 ft. on the walls of the steam-whim house, cleared and secured 1 ft. of the engine-shaft, which at this time is very wide, and detrimental to our setting down with the speed we had anticipated; yet every effort is made to get down as fast as we can; this being at present the work of the greatest moment. We are also making preparations for the horizontal rods from the engine-shaft to Ransom, which will soon be ready for the erection of the rods.

ROUND HILL.—J. Kasebone, Nov. 18: The lode in the new engine-shaft sinking below the 40 is 6 in. wide, with spots of ore in it. In the 40 north, at Bettom's winze, two lodes have formed a junction, where it is about 3 1/2 ft. wide, producing saving work. There is no alteration in the 40 south, nor in the stope below the 30 south of Matthews's winze, to notice since last report. The lode south of Bettom's winze, below the 30 north, will yield 20 cts. of ore per fm. The tribute pitches are much as usual.

SITNEY WHEAL BULLER.—S. J. Reed, Nov. 14: Since my last we have cleared the adit which has been brought up on Carnmell lode 60 fathoms; from this point we shall proceed northward, and prove the lodes in our sett at a depth of about 20 fms. There is no change to remark in the 60, east of cross-cut; driven 5 feet in the past week. Other things are without alteration.

SORTRIDGE CONSOLS.—J. Richards, Nov. 19: Hitchins's Engine-shaft: In the 62 east the lode is 5 feet wide, containing capel, mundic, quartz, and good stones of ore. In the 62 west the lode is 4 ft. wide, and also yields good stones of ore. In the 50 west the lode is from 2 to 3 feet wide, composed of quartz, mundic, a little gossan, and very rich stones of ore, and is very promising. The lode in Crossman's winze, sinking below the 50 east, is still worth for the length of 9 ft. 4 tons of ore per fm. In Jerry's winze, sinking below the 50 east, and east of the former, the lode is worth for length of 9 ft. 3 tons of ore per fm. The lode in the stope in the back of the 50 east is worth from 3 to 4 tons of ore per fath. In the 40 cross-cuts north and south, west of the cross-course, nothing of importance has as yet been met with. In the back of the 40 west, a little to the east of the cross-course, a rise is being put up upon the lode, but as yet no lode has been taken down.

SOUTH BEDFORD CONSOLS.—James Phillips, Nov. 19: The lode at Red Whim shaft is still looking very promising, and continues to yield good saving work. The lode in the 62, east of this shaft, is 3 ft. wide, producing from 1 to 2 tons of ore per fm.; in this level west the lode is 3 ft. wide, producing 2 1/2 tons of ore per fm. The 36 east, on the south lode, continues to yield good stones of grey ore. We set a winze to sink in bottom of adit level, which we hope will lay open some productive ground.

SOUTH BOG.—S. Morris, Nov. 19: I have just come from underground, with one of the directors, and I am pleased to say there is a considerable improvement in the 35 end south, now worth 12 cts. of lead per fm. The 45 is also improving south.

SOUTH CLIFFORD UNITED.—Capt. Pope: The Trehaddle adit is about 16 fms. south of the last shaft, and, from its appearance, very near the lode; the ground is easier for driving, and letting out water. The lode No. 6 is about 15 in. wide, composed of capel, quartz, and mundic, with a promising appearance. All other operations are progressing satisfactorily.

SOUTH CRENVER.—J. Delbridge, E. Chagwin, Nov. 16: The sumpmen are engaged sinking a winze from the 84 to the 94; the lode is 20 in. wide, tribute ground. The lode in the 110, driving south of the 84, is 2 ft. wide, and also yields good stones of ore. The lode in the 90, driving west of Michell's, on Yourcen's lode, is 20 in. wide, yielding 1 ton of ore per fm. The lode in the 78, driving west of Michell's, is 15 in. wide, yielding 1 ton of ore per fm. The lode in the 75, driving west of Michell's, is 15 in. wide, yielding 1 ton of ore per fm. The lode in the 71, east of Michell's, is 15 in. wide, yielding 1 ton of ore per fm. The lode in the 71, west of No. 9 winze, is worth 2 tons of ore per fm., and promising further improvement. We have put a small lift of pumps in No. 7 winze, and expect to be in a position to commence driving east and west at this point, by the end of next week. There is no change in the western levels since my last report.—South Lode: The shaftmen are using every exertion in making the necessary preparations for sinking, and will probably be commenced in 10 days from this time. The lode in the 61 west is yielding about 3 tons of ore per fm.; it continues in a disordered state, being split up by a horse of killas. The tribute department continues to look much the same as for some time past, yielding a fair supply of ore.

SOUTH WHEAL TOLGS.—We have set Michell's engine-shaft to sink this week below the 110 by nine men, at 261. per fm. The ground in the 110, driving south of Michell's, is harder than when last reported. The lode in the 110, driving west of Michell's, on Yourcen's lode, is 20 in. wide, yielding 1 ton of ore per fm. The lode in the 100, driving west of Michell's, is 15 in. wide, yielding 2 tons of ore per fm. The lode in the winze in the bottom of the above-named level is 1 ft. wide, yielding 1 ton of ore per fath. We have three stope working in the back of the 100, west from Michell's, each yielding 2 tons of ore per fm. The lode in the 90, driving west of Michell's, is small and poor. The lode in the winze sinking in bottom of the 90, west of Michell's, is 20 in. wide, yielding 1 ton of ore per fm. The lode in the 78, driving west of Michell's, is without any alteration to notice since last reported—moderately easy; the same will apply to the 100, driving south of Michell's. The lode in the 90, driving west of Michell's, on the south lode, is 3 ft. wide, yielding 3 tons of ore per fm. The lode in the 78, driving east of Michell's, is 15 in. wide, yielding 1 1/2 ton of ore per fm. The lode in the 75, driving west of Morcom's, is 1 ft. wide—unproductive. The lode in the 40, driving east of Morcom's, is 1 ft. wide, consisting of spar and peach, producing occasional stones of ore. The lode in the 10, driving west of Morcom's, on the south branch, is 15 inches wide, and rather disordered by a limb of the cross-course.—Nov. 14.

ST. AUSTELL CONSOLS.—R. H. Williams, Nov. 14: Our south cross-cut in the 45 is now under a dropper lode, and there is every indication of it in the present end. We are getting on with another axle. Our dressing floors are being got on with. The general meeting. We are busy sending down the 7-in. plunger-lift in the 45.

TEES SIDE.—R. Bray, Nov. 14: The Day level, driving east at Metal Band, is without much alteration to notice, the lode and ground being still of a favourable character for yielding mineral; the bottom of the level, for 18 in. high, producing stones of lead. The stope west of Milligan's sum, under the Day level, on the same lode, is not so productive for lead—poor. By the end of next week we shall have about 10 bings of ore ready for sale. All the wood and ironwork for the stamps is completed, and carted down to Metal Band last evening, and the carpenters is now

making the catch-pit, and on Monday, if weather hold up fine, they will commence in fixing the work; I hope by the end of next week they will be closing up for working. Our progress has been very slow in forking the water at Tees Side, at Providence shaft. In consequence of not having a full supply of water the working average of the wheel has been about 3 1/2 revolutions per minute. Since the commencement of working the wheel the water is under the 20, and hope by Monday we shall commence in clearing up the ore in the bottom of the shaft left in when we last worked this place.

TREWARE UNITED.—Nov. 16: The engine-shaft is about 3 fms. 4 ft. below the 30. The lode in the north end in the 30 is not so large as it was, but still producing good saving work, and I hope by the early part of next month to have from 2 1/2 to 3 tons of good quality silver-lead ore ready for the market.

TREWETHA.—T. Richards, W. Rowe, Nov. 18: The 70 south is worth 4f. per fm.; the north end is producing some saving work. The 60 north is worth 5f. per fath. The winze sinking in the bottom of the 60 north is worth 5f. 10s. per fm. In the 50 north there is no change. The stope are without any important alteration. In consequence of being disappointed of a wagon, we shall not be able to get home the boiler until about the latter end of the week. The new pitwork is fixed and made complete to the 70: we shall get down the lift below and resume the sinking of the engine-shaft next week.

UNITED MINES.—J. M. Champion, Nov. 17: We have commenced sinking our engine-shaft under the 35; we have set 2 fathoms to sink and cut a trip-plate, 12 ft. by 10, for 42s. per fathom; after this is completed we shall set 10 fms. more, which will make the 12 fms. lift, which will have 10 fms. of backs. The lode in the 35 is worth full 30f. per fm. for tin; I cannot see much change in the character of the lode for some time past; we are laying open good tribute ground, which will leave a prospect to the adventures. The pitches in the upper levels are turning out much as usual; some of the poorest pitches I have stopped. We have commenced burning our tin for Oct. month; I shall not be able to state the quantity until we have dressed up the tributaries' tinstaff.

VALE OF TOWY.—S. Harper, T. Harvey, Nov. 17: At Clay's engine-shaft, sinking below the 50, we hope to reach the 60 in about a week or ten days; the appearance of the ground under the lode is everything that could be desired for bearing lead. In the 50, north of this shaft, the lode is 3 ft. wide, much the same as last reported, yielding 5 cts. of lead per fm. In the same level south the lode is 4 1/2 feet wide, a splendid looking lode, yielding from 8 to 10 cts. of lead per fm. We have not seen such a fine lode at this point since we left the 10 fm. level. Field's shaft is again drained; we have resumed the sinking, and hope to reach the 50 in a few days; the lode is 5 feet wide, producing some splendid lumps of lead, from 30 to 40 lbs. in weight, deposited in the gossan and other congenital substances for lead. In the 40, south of this shaft, the lode is 3 1/2 ft. wide, very kindly, yielding 6 cts. of lead per fath. In the 30 south the lode is 1 1/2 feet wide, greatly improved in appearance during the past week; I hope to meet with something good in this end shortly. In the 40, north of Bonville's shaft, the lode is 3 1/2 feet wide, yielding 4 cts. of lead per fm. In the 50, south of No. 3 winze, south of Bonville's, the lode is 4 feet wide, yielding 8 cts. of lead per fm. In the 50, west of cross lode, the lode is 2 1/2 ft. wide, composed of gossan, spar, and killas, looking very promising, ground favourable for driving. In the 10, north of Bonville's shaft, the lode is 1 1/2 ft. wide, gossan and spar, impregnated with lead, but not to value. All other parts of the mine are much the same as last reported.

VIRTUOUS LADY AND WHEAL BEDFORD CONSOLS.—J. Metherell, Nov. 15: We have at last cut the lode at Field's shaft, and got into it about 5 in., in which we broke some good stones of ore. I hope we shall cut through it in the coming week.

WEST BASSET.—Wm. Roberts, Nov. 19: On engine lode, the 75, west of Percy's shaft, we now got into the same run of ore ground we have been driving through in the levels above; the lode in the present end is 5 ft. wide, with a leader of ore on the south part, producing 4 tons per fm. In the 65 west the lode is 4 ft. wide, with ore throughout, worth about 2 tons per fm. The rise in back of the 62 produces 2 tons per fm.; the lode is 4 ft. wide.

WEST CRINNIS AND REGENT UNITED.—J. Webb, Nov. 16: The 40 is cleared 35 fms. east of flat-road shaft, and 67 fms. west, where we have set several tribute pitches; we are fixing a great extent of tramroad, but have many fms. yet to clear and secure in this level. We have several tribute pitches in the 20, on Bell's lode, and the men generally getting good wages. We are doing a pretty deal of work at Rowes's shaft, in clearing the old levels, and shall set tribute pitches here shortly.

The shaftmen completed the dam in the north cross-cut (40 fm. level) last week, we shall now make preparations to drain the mine to deeper levels, where we shall be getting ore, which will increase the returns. The progress and prospects of these mines since their consolidation are very encouraging. Our computed 45 tons of copper ore were sold on Thursday, the 12th inst., and its real weight was nearly 50 tons.

WEST FOWEY CONSOLS.—J. Puckey: This mining, in the copper part, after Profection shaft, in the 90 and 100 fm. levels, has not yet produced as much ore as was expected from the appearances in the 80; nevertheless, within the last day or two, the 90 end has shown very favourable indications, but the 100, which is only now commenced driving from the shaft, shows the lode to be small, but kindly.

WEST GRENVILLE.—S. Berryman, Nov. 18: We have opened on the lode east and west of the cross-cut about 2 fms.; in the eastern end the lode is 1 ft. wide, worth 1 ton of good quality ore per fm. The lode in the western end is 1 1/2 ft. wide, yielding about the same quantity.

WEST ROSEWARNE.—Wm. Richards, Nov. 14: In the course of last month we had a better floor of ground, and set the shaft at 24f. per fm.; the men now demand 26f., but I have set it 1 fm., at 25f., to eight men; sunk last month 1 fm. 5 ft. The 30 west, on the north lode, has been driven last month, by four men, 6 fms. 1 ft.; the lode is 3 feet wide, but very little mineral, except mundic; not set at 31. 10s. per fm. The 30 east has been driven last month, on the north and south lodes, 6 fms. 5 ft.; the lode is 5 ft. wide, with stones of ore, mundic, &c., of low quality, though on the whole of the lode will do; a few fathoms further will show what this junction of the two lodes will do; set to four men, at 31. 10s. per fm.

WEST SHARP TOR.—Nov. 16: The ground in the cross-cut north in the 70 is chiefly hard evan, the same kind as that passed by in the cross-cut north of the new shaft. The part of the lode being carried into the 110 cross-cut yields some rich ore; if this point had been soft instead of hard it would have been a good paying lode. I shall put these men to drive south-west next month, to intersect the part of the lode that looks so promising in the cross-cut of the shaft. Our prospects in this (the deepest) level are more cheering than anything I have yet seen in the mine.

WEST WHEAL TOW.—Nov. 17: The 45 cross-cut, north of Caroline's shaft, is still favourable for driving, but it has not yet intersected any lode. We have set a winze to sink in this cross-cut from the bottom of the stope, below the 35 fm. level.

WHEAL AGAR.—W. Roberts, Nov. 17: In the 60 west the lode continues 1 1/2 ft. wide, producing good stones of ore. In the 50 east the lode is 2 feet wide, composed of mundic, spar, and ore—a kindly lode.

WHEAL ARTHUR.—T. Carpenter, Nov. 16: Old Lode: The lode in the 50 west is 2 feet wide, composed of spar, mundic, iron, and stones of copper ore; this end is 2 1/2 fms. west of cross-course, and getting into more settled ground. We are pressing on the 50 cross-cut south as fast as the nature of the ground will admit; driving by six men, at 31. per fath. We have cut into the lode in the 40 east 6 ft., but have not yet reached the north wall; the lode, so far as seen, is composed of spar, peach, mundic, and spots of copper ore. The lode in the adit level west is 2 1/2 feet wide, composed of spar, capel, mundic, and stones of copper ore. We are preparing for our next sampling. Nov. 27, which will be about 100 tons copper ore.

WHEAL BULLER.—T. Carpenter, Nov. 16: Old Lode: The engine-shaft under the 60 is 2 feet wide, composed of spar, mundic, iron, and stones of copper ore; this end is 2 1/2 fms. west of cross-course, and getting into more settled ground. The part of the lode being carried into the 110 cross-cut yields some rich ore; if this point had been soft instead of hard it would have been a good paying lode. I shall put these men to drive south-west next month, to intersect the part of the lode that looks so promising in the cross-cut of the shaft. Our prospects in this (the deepest) level are more cheering than anything I have yet seen in the mine.

WHEAL CROWN.—T. Carpenter, Nov. 16: Old Lode: The engine-shaft under the 60 is 2 feet wide, composed of spar, mundic, iron, and stones of copper ore; this end is 2 1/2 fms. west of cross-course, and getting into more settled ground. The part of the lode being carried into the 110 cross-cut yields some rich ore; if this point had been soft instead of hard it would have been a good paying lode. I shall put these men to drive south-west next month, to intersect the part of the lode that looks so promising in the cross-cut of the shaft. Our prospects in this (the deepest) level are more cheering than anything I have yet seen in the mine.

WHEAL DUNLOP.—T. Carpenter, Nov. 16: Old Lode: The engine-shaft under the 60 is 2 feet wide, composed of spar, mundic, iron, and stones of copper ore; this end is 2 1/2 fms. west of cross-course, and getting into more settled ground. The part of the lode being carried into the 110 cross

standing to the south. In the 30 east the lode appears to be opening out larger. In the 50 west the north lode is rather small, producing occasional stones of copper ore. In the 30 west we have a large fine working lode, composed of spar, peach, and mastic, with spots of copper ores. In the Globe adit, we find the lode rather small, composed of spar, peach, mastic, and gossan: as soon as this level is intersected by a cross-course we consider it will be advisable to drive a cross-cut south to intersect the south lodes.

**WILLOW BANK.**—J. Sanders, Nov. 16: The lode in the 30, both east and west, is much the same as last reported. The cross-cut north from the 17 is not through the lode as yet. The water has increased in the 17 within the past week, so much that we are obliged to work the engine a great deal faster than formerly to keep it in fork. The lift is fixed at boundary shaft, below the adit, and the sinking of the shaft is progressing favourably. I regret to say that we had an accident last week, through the blasting of a rock, by which one man was very much injured, but I am happy to say that he is now in a fair way of recovery.

**TARNER MINE** (North Bovey, Devon).—This mine has considerably improved in the past week. The lode driving east in the 10 is increased in size, and is now worth 10/- per fm. for copper, with every prospect of a further improvement. The shaft is 3 fms. under the 10, and the lode improving in depth.

The extraordinary fall in the price of metals will necessitate the stopping of some of the best mines, or occasion other measures to be adopted for counteracting the proceedings of the smelters. A meeting of the adventurers in Wheal Owles has been called, to consider the propriety of withholding the tin from the market, and making a call to carry on operations. At Balleswidden Mine, a meeting was held on Nov. 11, when it was resolved that, "in consequence of the heavy loss of 10/- ds. 7d. for the quarter, and the great reduction in the price of tin," the meeting be adjourned until Saturday (this day), for the purpose of taking into consideration the partial suspension or total abandonment of the mine. The agents were directed in the meantime to carefully examine the mine, and make an estimate of the probable cost of working for the next six months, either on the present scale, or such reduced one as may be suggested. Since the meeting adjourned, the manager has issued a notice to all parties engaged on the mine that, in consequence of the reduction in the price of their produce (tin), at least 30/- per ton since March last, all wages in future, from the purses downwards, will be reduced at least 20 per cent., intimating that any of the parties employed may throw up their engagement by giving a week's notice. It is scarcely necessary to add that the proceedings of this day are looked to with considerable interest.

**MINE INSPECTION.**—Great complaints are occasionally made of the inaccuracy of the reports of mining agents. In some cases these are stated to arise from errors of judgment, in others from want of professional knowledge, and in instances, which we trust are but few, from wilful misrepresentations and garbled statements of facts. We have always impressed upon adventurers the necessity of not only having a knowledge of the committee who manage the undertaking in which they embark their capital, but at the same time to look to the character of the agents who are appointed to superintend the practical details, and the reports of those who have ushered the property into public notice. It will be seen that Mr. JOSIAH HUGH HITCHINS, who developed, and many years so successfully superintended, the Devon Great Consols, which has been one of the wonders of mining in the present century, offers to inspect mines in the United Kingdom; at the same time, he proffers his advice in all things appertaining to mining. From the practical experience acquired by Capt. Hitchins, not only in carrying out the Devon Great Consols, but likewise the lengthened period he has been acquainted with successful mineral enterprise, a guarantee is offered that sound and useful information will be afforded to those who require it. It is not to be supposed that all mining reports should be of a favourable nature; the most practical men, with all the aid of science, may be deceived, and their judgment may lead to disappointment. It is an old saying that no miner can see further than the pick and ad. What, however, is wanted is that the public should be put in possession of facts as they are, that sound practical information should be afforded as to the value of any property they may wish to invest their capital in, and that their agent should be a man of sound intention and integrity of purpose. Judging from his antecedents, Capt. Josiah Hitchins would appear to possess these acquirements.

**MINE SURVEYING.**—One of the many evils which hitherto, in a great measure, has tended to retard the development of mining enterprise, and at the same time involved a large, and in many instances a wasteful, expenditure of capital, has been the absence of proper mining records and sections of the workings. The attention of the Government has been directed to the subject, and during the last few years Mr. Robert Hunt has collected and collated a useful mass of mining information, which, but for his exertions, would have probably been lost or destroyed. In his lecture at the Government School of Mines, on Tuesday, Mr. Warington Smyth alluded to the loss of capital that had been incurred by taken up old mines merely on loose and oral traditions; and, referring to the map of Tywarhale, observed how useful a guide this would be to the agents, had the sections been in a more perfect state, and the prices and other information marked at the different levels. Several of our larger mines have a dialler attached to the staff. In some of the continental states it is compulsory on proprietors of private mines to keep up an accurate survey of their workings, and as each of the levels are further driven, and the shafts sunk, they are obliged to be marked on the plans. If such a system were adopted here, a great check would be given to reckless speculation; as the production and inspection of authentic records and maps would prevent the diffusion of many delusive statements, which, owing to the absence of any means of disproving, now occasionally find currency, and thus inflict a great injury on mining adventure. Capt. JOSEPH RICHARDS, of the Okehampton Consols, who has had considerable experience in this branch of mining, it will be seen by referring to our advertising columns, offers his services to regularly attend to the mapping and dialling of mines. In order, however, that this should be perfectly done, it is necessary that the plans and sections should not only be laid down at a peculiar phase of the working, but likewise kept up contemporaneously with their extension. If Capt. Richards does this, it may not only be advantageous to himself, but likewise a great benefit to the mine in question, and of considerable utility to the adventurous public.

**THE IRON TRADE.**—The effect of the commercial crisis in America has already been seriously felt by many British houses of the highest respectability, and in the iron trade especially the result will probably be most disastrous. In the South Staffordshire district the signs of mistrust and anxiety which were noticed previously, had so far increased on Saturday that a run on the Wolverhampton Bank commenced, and during Saturday and Monday about 50,000/- were withdrawn, when the directors decided upon suspending payment; with the promise, however, that they would forthwith take the most prompt means to satisfy every account, and retrieve every inconvenience that may arise from this unavoidable occurrence, if circumstances should not justify the continuance of the bank. Mr. Robert Hunt has collected and collated a useful mass of mining information, which, but for his exertions, would have probably been lost or destroyed. In his lecture at the Government School of Mines, on Tuesday, Mr. Warington Smyth alluded to the loss of capital that had been incurred by taken up old mines merely on loose and oral traditions; and, referring to the map of Tywarhale, observed how useful a guide this would be to the agents, had the sections been in a more perfect state, and the prices and other information marked at the different levels. Several of our larger mines have a dialler attached to the staff. In some of the continental states it is compulsory on proprietors of private mines to keep up an accurate survey of their workings, and as each of the levels are further driven, and the shafts sunk, they are obliged to be marked on the plans. If such a system were adopted here, a great check would be given to reckless speculation; as the production and inspection of authentic records and maps would prevent the diffusion of many delusive statements, which, owing to the absence of any means of disproving, now occasionally find currency, and thus inflict a great injury on mining adventure. Capt. JOSEPH RICHARDS, of the Okehampton Consols, who has had considerable experience in this branch of mining, it will be seen by referring to our advertising columns, offers his services to regularly attend to the mapping and dialling of mines. In order, however, that this should be perfectly done, it is necessary that the plans and sections should not only be laid down at a peculiar phase of the working, but likewise kept up contemporaneously with their extension. If Capt. Richards does this, it may not only be advantageous to himself, but likewise a great benefit to the mine in question, and of considerable utility to the adventurous public.

**RAILWAY TRAFFIC.**—The Traffic Returns of the Railways in the United Kingdom for the week ending Nov. 14, amounted to 426,757, and for the corresponding week of 1856 to 427,700/-, showing an increase of 1057. The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending Nov. 14 to 171,863/-, and for the corresponding week of last year to 180,591/-, showing a decrease of 5728.

The decrease of the Eastern Counties amounted to 6281/- on the Great Northern to 2724/-; on the London and North-Western to 2945/-; on the London and Blackwall to 751/-; on the London and South-Western to 1313/-; and on the South-Eastern to 1831/- total 9233. But from this must be deducted 355/- the increase on the Great Western, and 412/- on the London, Brighton, and South Coast: leaving the decrease as above, 5728/-.

The receipts on the other lines in the United Kingdom amounted to 256,894/-, and for the corresponding period of 1856 to 247,109/-, showing an increase of 9754/- in the receipts of those lines, from which must be deducted the decrease on the metropolitan lines, leaving the total increase 1057, compared with the corresponding week of 1856.

**RAILWAY CAPITAL.**—The total amount of capital authorised by Act of Parliament for the various railroads of the kingdom amounted, previous to the end of 1855, to 241,195,702/- (by shares), and to 95,485,526/- (by loans). In 1856 the amount authorised was 3,613,000/- (by shares), and 2,145,740/- (by loans), was 377,767,907. The amount of the share capital of companies actually paid-up on Dec. 31, 1856 (the same not receiving, or entitled to receive, any preferential dividend or rate of interest), was 173,446,109/-; the amount of share capital receiving, or entitled to receive, preferential dividend or interest, 2,424,523/-; the total debts of the companies (on Dec. 31, 1856), 77,359,419/- and the amount of interest thereon, 3,244,240/- The total amount of money which at the end of 1856 the various companies had raised by shares or loans was 307,594,080/-; the total amount which at the end of 1856 the companies retained the power to raise, either by old or new shares, or by loans, was 70,173,821/- The total length of line open for traffic at the end of last year was 8710 miles (2444 of single and 6266 miles of double line); the length of line in course of construction on Dec. 31 was 1050 miles; the length of line authorised, but not commenced, 3321 miles; and the total length of lines for which companies had obtained powers prior to Dec. 31, 1856, 13,111 miles.

**EDEN VALLEY RAILWAY.**—This line will commence at Clifton, near Penrith, on the Lancaster and Carlisle line, and extend to the South Durham and Lancashire Union Railway (now in course of construction), at Kirby Stephen. By this railway the produce of the Durham coal field can be readily conveyed to extensive districts of England and Ireland, which have hitherto been supplied with an inferior quality of coal, at a comparatively high price. The gradients upon the line are favourable, the works of an easy character, and the traffic from coal, coke, lime, and minerals, together with passengers and merchandise, will, it is confidently believed by the promoters, be fully remunerative to the shareholders. The average weekly receipts upon the Newcastle and Carlisle Railway are 40/- per mile per week; Maryport and Carlisle, 38/-; Lancaster and Carlisle, 70/-; Stockton and Darlington, 74/-; Monkland, 28/-; Kendal and Windermere, 24/-; Furness Railway, 54/-; Caledonian Railway, 64/- A similar mileage receipt of even 15/- per week would pay a dividend of 6 per cent. upon the present line, after allowing 50 per cent. for working expenses. To save outlay on rolling stock, engines, &c., the promoters intend by the Act to empower adjoining companies to work and maintain the line, and a provisional working arrangement on equitable terms has already been made with the Stockton and Darlington Company. The list of directors consists of 37 of the most influential parties connected with the district, and includes the names of Lord Brougham, Sir Richard Tafton, Earl Bective, &c. The line will be 22 miles in length, and the capital proposed to be raised is 135,000/-, to be divided into 5400 shares of 25/- each. The general prospects of the undertaking are highly encouraging.

## The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET, London, November 20, 1857.

| COPPER.                                      |                        | FOREIGN STEEL.                          |                  | PER TON. |   |
|--|------------------------|---|------------------|----------|---|
| Copper wire                                  | p. lb. 0 1 3 1/2       | Swedish, in kgs.                        | 21 13 0 22       | 0 0      | 0 |
| ditto tubes                                  | " 0 1 4 - 1 4 1/2      | to arrive                               | 21 10 0 -        | 0        | 0 |
| Sheathing and bolts                          | " 0 1 1 1/2 -          | Ditto, in faggots                       | 23 10 0 24       | 0 0      | 0 |
| Bottoms                                      | " 0 1 2 - 2 1 1/2      | English, Spring                         | 18 0 0 23        | 0 0      | 0 |
| Old (Exchange)                               | " 0 1 0 -              | QUICKSILVER                             | 1 p. lb. 0 2 0 - | 0        | 0 |
| Best selected                                | p. ton 124 10 0 - nom. | SPELTER.                                | Per Ton.         |          |   |
| Tough cake                                   | " 121 10 0 -           | Foreign                                 | 27 10 0 -        |          |   |
| Flie   | " 121 10 0 -           | To arrive                               | 28 10 0 -        |          |   |
| South American                               | " 120 -                |   |                  |          |   |
| IRON.  |                        | IRON.                                   |                  | per Ton. |   |
| Bars, Welsh, in London                       | 8 5 0 - 8 7 6          | In sheets                               | 36 0 0 38 19 0   |          |   |
| Ditto, to arrive                             | 7 0 0 - 7 5 0          |   |                  |          |   |
| Nail rods                                    | 8 0 0 - 8 10 0         |   |                  |          |   |
| " Stafford, in London                        | 9 0 0 - 9 10 0         |   |                  |          |   |
| Bars ditto                                   | 9 12 8 10 10 0         |   |                  |          |   |
| Hoops  | 10 7 6 15 10 0         |   |                  |          |   |
| Sheets, single                               | 11 0 0 11 10 0         |   |                  |          |   |
| Pig, No. 1, in Wales                         | 4 0 0 - 4 5 0          |   |                  |          |   |
| Refined metal, ditto                         | 5 0 5 - 5 10 0         |   |                  |          |   |
| Bars, common, ditto                          | 6 7 6 - 15 0           |   |                  |          |   |
| Ditto, railway, ditto                        | 6 5 0 - 6 10 0         |   |                  |          |   |
| ditto, Swed. in London                       | 14 10 0 16 10 0        |   |                  |          |   |
| in stock to arrive                           | 15 0 0 16 0            |   |                  |          |   |
| Pig, No. 1, in Clydes                        | 2 13 0 - 2 15 0        |   |                  |          |   |
| Ditto, in Tyne and Tees                      | 3 11 0 - 3 15 0        |   |                  |          |   |
| Ditto, forge                                 | 3 10 0 -               |   |                  |          |   |
| Staffordshire Forge Pig                      | 4 12 0 - 5 0 0         |   |                  |          |   |
| Welsh Pig                                    | 3 0 0 - 3 5 0          |   |                  |          |   |
| LEAD.  |                        | TIN-PLATES.                             |                  | per Ton. |   |
| English Pig                                  | 23 0 0 23 10 0         | IC Charcoal, 1st qua.                   | 1 14 6 - 1 16 0  |          |   |
| Ditto sheet                                  | 24 0 0 24 5 0          | 1st Dito 1st quality                    | 2 0 6 - 2 3 0    |          |   |
| Ditto lead                                   | 26 0 0 -               | IC Dito 2d quality                      | 1 12 0 - 1 13 0  |          |   |
| Ditto white                                  | 27 0 0 23 0 0          | IC Dito 2d quality                      | 1 18 0 - 1 19 0  |          |   |
| Ditto patent shot                            | 26 10 0 27 0 0         | IC Coke                                 | 1 8 0 - 1 9 0    |          |   |
| Spanish, in bond                             | 23 0 0 -               | IC Dito                                 | 1 14 0 - 1 15 0  |          |   |
|  |                        | Canada plates                           | p. ton 15 0 0    |          |   |
| TIN.   |                        | In London: 20s. less at the works.      |                  |          |   |
| Yellow Metal Sheathing                       | p. lb. 11 3/4 d.       |   |                  |          |   |
| Westerstads Pat. Met.                        | p. cwt. 2 2 0          |   |                  |          |   |
| Stirling's Non-Jamming                       | 9 0 0 - 9 2 0          |   |                  |          |   |
| ring, or Hardened                            | Surface Ralls, p. ton  |   |                  |          |   |
| Stirling's Patent                            | Glasg.                 |   |                  |          |   |
| Tin-plate                                    | 4 0 0 - 5 0 0          |   |                  |          |   |
|  |                        | Indian Charcoal Pigs                    | 1 - 7 10 0       |          |   |
| TIN.   |                        | in London: 1s. to 1s. 6d. per box less. |                  |          |   |
| * At the works, 1s. to 1s. 6d. per box less. |                        |   |                  |          |   |

**REMARKS.**—Scarcely any alteration has taken place in the tone and appearance of our market; all kinds of metals assume a dull and cheerless aspect; no criterion can be formed in the present uncertainty that exists as to the future value of any one article.

**COPPER.**—No change has been announced in fixed rates; at the same time, no improvement is visible in the demand, merchants still retaining what few orders they have on their books, and evincing a strong disinclination to ship at present rates.

**IRON.**—This metal still wears a downward course; the shipments having considerably fallen off to all parts of the world, and so very extensive has the production become, although lately somewhat diminished, that either prices will recede very fast or there will be a vast accumulation of stock, which will naturally swallow up a large amount of capital, and, perhaps, be the means of causing some of the ironmasters to suspend operations altogether. Already there have been several failures announced in the Staffordshire district, consequent on the stoppage of the Wolverhampton Bank; and, according to information from there, other failures are inevitable. We trust, however, that the present desponding state of affairs will pass by more quickly than the difficulties with which we are surrounded would allow us to expect. Scotch pigs have slightly fluctuated in price, the market closing at 52s. 6d. m. n. g. m. b. f. o. b. in Glasgow.

**LEAD.**—Lead much about previous quotations; scarcely any business doing.

**SPELTER.**—Little or no enquiry: market declined to 27/- 10s.; it is reported 27/- would not be refused for a good order.

**TIN.**—English is without change. Straits has been sold at public sale at a considerable reduction—102/- 10s. This is most alarming, and the trade was utterly surprised to find it could not realise a better price.

**TIN PLATES lower in price.**

**LIVERPOOL, NOV. 19.**—Our metal market shows no symptoms of improvement whatever, but, on the contrary, increased depression exists in all branches of the trade. The disastrous occurrences in Staffordshire during the past week will convey some idea of the state of things there. Business for the present, at all events, is comparatively dead, and will continue to be so, it is feared, for some time to come. As regards Welsh Iron, some makers are unwilling to concede prices, whilst others are following the market. Scotch Pig-iron shows an improvement in price since our last report, attributable, in some measure, to the relief granted to the Bank of England by the Government, and which induced buyers to come forward more freely. The shipments are again considerable, amounting to 11,025 tons, against 10,024 tons for the corresponding week of last year. The demand for Tin and Tin-plates is very easy; the latter article continues to recede in price, and quotations are, therefore, merely nominal. Copper and Lead are but in moderate request. The following are the quotations:—Iron: Merchant bar, 7/- to 7 1/2 10s. per ton.—Tin: Common block, 120/- per ton; common bar, 121/-; refined block, 124/- Tin-plates: Charcoal, 1C, 31s. to 38s. 6d. per box; coke, 1C, 27s. to 28s. 6d.—Lead: English sheet, 21/- 10s. per ton; English pig, 23/- 10s.—Copper: Cake and tile, 121/- 10s. per ton; best selected, 124/- 10s.; sheathing and

At Carvath United Mining Company meeting, yesterday (Dr. Alexander Beattie in the chair), the accounts showed a balance against adventurers, 11931. 18s. 6d. A call of 7s. 6d. per share was made. The proceedings, which are reported in another column, terminated with a vote of thanks to the Chairman.

At Kelly Bray Mining Company meeting, yesterday (Mr. John Field in the chair), the accounts showed—Balance against adventurers, 2227. 15s. 3d. A call of 2s. per share was made. The committee of management, with the addition of Mr. Alfred Richards, were re-elected, and the auditors were also re-elected. The 55 shares in the hands of the committee were sold at 31s. per share. The proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman.

At North Roskar Mine meeting, on Nov. 10, the accounts showed—Balance last audit, 20501. 4s. 1d.; mine costs and merchants' bills, Aug. and Sept., 33151. 19s. 3d.—Ores sold, Sept., 30; and Nov., 43201. 13s.—Leaving balance against adventurers, 19751. 10s. 3d. The shares were subdivided into 700 instead of 140, as heretofore.

At the Severn Mines meeting, on Nov. 14 (Mr. E. C. Bourne in the chair), the accounts showed—Balance last audit, 681. 1s.; calls received, 2671. 12s.; ore sold, 1131. 0s. 6d.; bill receivable, 334. 4s. 11d.—681. 1s. 7d.—Mine costs and merchants' bills, 3007. 11s. 6d.; sundries, 241. 2s. 7d.; leaving balance in favour of miners, 671. 4s. 6d. A call of 1s. 6d. per share was made. Capt. John Reynolds reported that the lode had not yet been cut in the cross-cut near the top of the hill; the end continued exceedingly wet, and, from the present appearance, he was expecting to cut it daily. They had done nothing with the dressing for the last two or three months; they must get the round bubble completed, which would cost from £1. to £10., when they would be able to clean up about 20 tons of lead and copper, including nearly 2 tons of copper now at Llanidloes.

At Helvellyn Consols Mine meeting, held at Anderton's Hotel, Fleet-street, on Monday, to take into consideration a proposition made by a gentleman from Leeds, as to the future working of the mine, it was unanimously agreed that the mine be forthwith registered under the Joint Stock Companies Act (Limited); the old shareholders to retain an interest in the new company, and the management to be at Leeds. The prospects of the mine were represented of great promise, three rich copper lodes having been opened, and ore producing 25s. per ton raised and sold. It is the intention of the present company to take up a level at the base of the mountain, close to the coach-road to Keswick, where a stream of water is available for dressing the ore, of which it is anticipated there will be abundance. This level will give backs of above 350 fms., as they will drive in No. 2 lode, and cross-cut to Nos. 1 and 3, all of which are well-defined lodes. Helvellyn Consols adjoins the rich lead mine Wheal Henry, Helvellyn, and is held under lease from Sir Henry Ralph Vane, at 16th royalty; it was held at £1000, but has been reduced in order to give encouragement to mining. A judicious outlay to make it equal to any in the world. A spirit for mining is springing up; several sets have been taken in consequence of the reduction of dues, and the prospects of Wheal Henry and Helvellyn. One of the mines lately brought forward by the public having cut a lode, has already caused the fortunate holders to ask 1000/- for a 6th part or share. [We are happy to find that the predictions of our correspondent, "H. M.", are likely to be realized, and that the mountains of Cumberland will bear long swarms with busy miners.]

At Dalmuir Copper and Lead Mining Company meeting, on Thursday, the accounts showed balance in favour of adventurers, 131. 8s. 4d. The proceedings are reported in another column.

At Buller and Borthia Mining Company meeting, on Wednesday, the accounts showed calls in arrear, 1867. 15s. A call of 5s. per share was made.

At the Rhymney Iron Company meeting, on Wednesday (Mr. E. J. Hutchins in the chair), the accounts showed a profit on the year of 45,8861. 16s. 11d. A dividend of 12. on the 500 shares, and 6s. on the 150 shares, was declared. The iron manufactured during the year had been 41,512 tons, being a slight increase upon the make of the preceding. The report presented to the meeting, and a full abstract of the accounts, will be found in another column.

Catherine and Jane Consols sampled 21 tons of lead ore on Friday.

The Great Hewas United Mining Company have issued a report and statement of accounts, from which it appears the balance in favour of adventurers was 6222. 13s. 3d. The tin sales from June 30 to Sept. 30 were as follows:—July, 10811. 19s. 6d.; August, 12901. 18s. 4d.; Sept., 13531. 13s. 7d. Mr. R. C. Hanam (the chairman) and Mr. Charles (the secretary) stated that the time for the usual quarterly meeting had arrived, but as there was nothing of sufficient importance to call them together, the committee had decided in issuing a report instead. The mines had been carried on with energy since last report. The new cast shaft had been completed to the 20'. There was now a run of the ground in this level, for nearly 60 fms. in length and 40 fms. in depth. At the Western Mine, Wheal Elizabeth engine-shaft had been completed to the 95'. A long run of tin ground had been driven through in the 66' west of the shaft; this was most important, as the ground in this direction is whole to the surface, and will form a new and extensive mine. At Stanley's, the south lode has not been productive hitherto, but is now producing good work for tin. In consequence of the fall in the price of tin, it was determined to sell only such a quantity as would supply the wants of the miners during the depression.

The Mariquita and New Granada Mining Company received advices on Nov. 14.—SANTA ANA MINES: No profit and loss account received. Returns for Sept., \$15,673. The superintendent writes as follows:—Oct. 2: The returns for last month were less, in consequence of not having a full supply of water for the barrels, and on account of two days' interruption during the time of laying down ladders in wheel-pit for a second set of amalgamation barrels. This month we expect to have a full supply of water for the reduction works machinery; and, as the supply of ore is not deficient, higher returns will be made.—Oct. 9: The weather has now set in wet, and several heavy showers have occurred of late.—MARMATO MINES for the month of August: Returns, \$8235; cost, \$9368. The superintendent writes, Sept. 5: Returns: These are suffering from lack of surface water, but we hope when the rains come on to compensate for our losses.—PURIMA MINES: No profit and loss account received.—[In the Journal of Nov. 7, it was stated that the returns from Santa Ana were likely to be \$21,000. The above report accounts for the falling off.]

The Copiapo Mining Company's estimated produce for Sept.:

| Description.           | Quintals. | Per cent. | Val. per q. | Value.    |
|------------------------|-----------|-----------|-------------|-----------|
| Best dark ore          | 430       | 27        | 28 1/2      | \$1603 12 |
| Best green ore         | 330       | 27        | 28 1/2      | 1246 87   |
| Second-class green ore | 1200      | 16        | 13 1/2      | 2062 50   |
| Yellow bronzes         | 1000      | 13        | 10 1/2      | 1281 25   |
| Green despirites       | 2500      | 12        | 8 1/2       | 2578 12   |
| Dark despirites        | 500       | 11        | 7 1/2       | 453 12    |
| Total.                 | 6000      |           | 8922 98     |           |

Sept. 30.—In the 20', driving east on the north lode, the lode is 4 ft. wide, but poor. In the winze below the 20' we have intersected the north part of the lode in the cross-cut driving north in the bottom of this winze. We cannot state its width or value at present, as we have only driven about 2 ft. through it; but for that distance the lode looks very well, and has yielded a fair quantity of ore. In the 30', driving east on the north lode, the lode is 20' in. wide, producing about 1 ton of 16 per cent. ore per fm. In the slopes in the bottom of the 30', on north lode, the lode is from 3 to 4 ft. wide, and will yield 5 tons of 18 per cent. ore per fm. In the cross-cut driving north in the 30' the ground is becoming hard for driving. In the 30', driving east of Harman's shaft, on north lode, the lode is fully 4 ft. wide, and still yields 1 1/2 to 2 tons of 12 per cent. ore per fm. In the 40', driving east on the north lode, the lode is 1 1/2 ft. wide, producing 1 ton of ore per fm. In the cross-cut driving north in the 40' we have intersected several small branches since my last report; they are chiefly composed of mafus and low quality ore. In the 40', driving west on south branch, the branch is 1 ft. wide, and poor. In the 40' the lode is 20' in. wide, but poor. In the 60', driving west of Harman's shaft, the lode is 3 ft. wide, producing a little ore. In the 80', east of Harman's shaft, the lode is 3 ft. wide, unproductive. In the slopes in the old part, on Green ledge, the lode is 3 ft. wide, producing 5 tons of 18 per cent. ore per fm. The tribute pitched in is greatly improved since last report; consequently, the returns for the present month are exceedingly good.

The St. John del Rey Mining Company have advices from Brazil:—Morro Velho, Sept. 26.—Mr. Samuel Terrill leaves this on Monday for Rio, in charge of ten boxes, containing 38,914 oits., equal to 373,845 lbs. of amalgamated gold—viz., seven boxes containing each 4906 oits., = 32,342 oits.; one box containing three bars of melted gold, 3185 24 oits.; one box ditto, 3133 48 oits.; one box ditto, 303 oits.; total, 38,914 oits., addressed to Messrs. W. Harrison and Co., Rio de Janeiro, with instructions to ship the 303 oits. per first packet, to your address; and also the other boxes, if the rate of exchange in London was under 27d., but if 27d., or upwards to send the 303 oits. bare to the mint, on company's account, and to dispose of the remainder as they might find best for the interest of the company.

Sept. 30.—Gold extracted to date, 11,743 oits., being 11,343 oits., from 1097 cubic feet of sand (result of 20 days' stamping), yielding 10,23 oits. per cubic foot, and from 4776 tons of stone, equal to 2,374 oits. per ton, and 400 oits. from the Praia.

REDUCTION DEPARTMENT.—Stamps working 20 days, average 12040 heads; ditto 132 heads, 19,616 days. The stone still continues of low quality. At the Praia, the proceeds of the two divisions are tolerably good. The first side of the second set of stamps is still only slowly getting on, in consequence of the want of iron-work, the smelters having been occupied with more urgent work for the mine.

Mines.—The measures for getting the mine again into good working order have gone on very satisfactorily. The hitch cutting and the cutting out, and sending down and putting in timber, have been done by contract. We hope to have Schneider's line partially at work next week.

The United Mexican Mining Association have despatches from the commissioners, dated Guanajuato, Oct. 14. Major Farrell writes:—JESUS MARIA Y JOSE: The state of this mine is most satisfactory to its present yield, and most encouraging in its appearance for the future. The deepening of the shaft continues in favourable rock, and is fast progressing, and notwithstanding that such an operation might have been expected materially to interrupt and lessen the extraction, this has been for the two weeks elapsed since our last report 2200 cargs., 1200 cargs. the last week, and 1000 cargs. the previous week. The lode has been much of an average with that previously reported, but has rather improved than deteriorated. The works carrying on are the shaft (which has been already deepened 13 vars.), the New Bonito Mine, which has reached a depth of 49 vars., the pose of communication, the front of San Pedro and San Pablo, those of San Jose and San Martin, and the pose of Dolores. Of the pose of communication between the upper and the lower works, useful as a road in the mine and necessary for ventilation, it is most satisfactory to observe that it is going down in the vein in ore, and that this ore is widening, being now 2 vars in width; whereas at our last report it did not exceed 3/4 var. On the 1st inst. \$15 cargs. were sold for \$3815, and we shall sell again to-morrow. The quarterly division of profit, with the owners to 30th ult., showed a surplus over expenditure of \$13,818, being a profit of more than \$1000 a week, and to which may fairly be added the value of the 1st inst., a torta delivered on that day, but which did not properly enter into the division for the quarter. Of this \$13,818, \$4506 were appropriated towards the extinction of the debt, \$914 as actual (present) profit to the association, and the remainder, \$40704 to the owners, the result of which follows that the actual receipts of the company were \$10,747 83 c. I have reason to expect the next quarterly receipts will be greater, and present circumstances justify us in the hope that we may in no distant period make a remittance to London, which would be a source of great satisfaction to the commissioners as it could possibly be to the shareholders and I may add they will alone be restrained by a due sense and consideration for the existence and future well-being of the association.—ALDANA AND LA TRINIDAD: These mines remain at the last report. The haciendas of Dolores and Duran are fully employed, and with good results, upon the ore of Jesus Mara. Quicksilver: The price of this article remains as last quoted—\$58 per quintal. Finance: Cash balance in hand \$9093, to which may be added a further sum of \$10,000 available within the week, against which our liabilities are under \$2000.

The Royal Santiago Mining Company have advices from Cobre, Oct. 9.—In the stopes below the 32', on back of the 41', the lode is from 3 to 4 feet wide, producing 2 tons of ore per fm. In the 32' west, on south lode, the lode is 1 1/2 ft. wide, but of no value for ore; a large stream of water is coming out of this end. We have not yet cut the lode in the cross-cut in the south from the 32'. In the 22', east of New Isabella shaft, the lode is 2 ft. wide, producing 1/2 ton of ore per fm. The 22', driving west of ditto, is still poor. At New Isabella shaft, below the 22', the ground is hard, and rather troublesome for sinking, particularly since the last heavy rains. In the winze sinking below the 22' east the lode is 1 1/2 ft. wide, producing 2 tons of ore per fm. In the stopes in the back of the 22' the lode is 2 feet wide, producing 2 tons of ore per fm. In the 10', east of shaft, the lode is 1 1/2 ft. wide, producing 1/2 ton of ore per fm. In the stopes in the back of the 10' the lode is 1 1/2 ft. wide, producing 2 tons of ore per fm. This was communicated on the 7th inst. to the 22'. In a few days we shall commence stoping the ore ground west of shaft from the 10' to the 22'.—Mr. Morris.

Cobre, Oct. 16.—The stopes in the back of the 41', on below the 32', we are obliged to suspend for want of hands, and the lode not looking so well. In the 32' driving west on the south lode, the lode is 1 foot wide, composed of spar, with spots of copper ore. In the 22', driving east from the bottom of No. 1 sink, in Umbrick's level, 4 tons per fm.; and the four stopes in the back of this level will average 3 tons each per fm. The end driving east from Carter's shaft is at present passing through a channel of scherf, under which the Erslebstergang found a rich shoot of ore a little further east, and we hope to reach the same about the end of this month. The stopes in the bottom of the end, about 3 inches behind, is worth 3 tons per fm., but the sink going down near Carter's shaft is poor; nevertheless, this must be got down as quickly as possible, and the driving started to get under the said shoot of ore, so as to get back stopes. Carter's shaft is still very hard, but in the bottom we have some small branches of lead ore, from which we shall soon get into a change of ground. The lode in the Erz Kammer is worth full 10 tons of silver-lead ore per fm. In conclusion, I am most happy to inform you that we have driven a cross-cut south from the midise driving, west from the No. 1 sink, in Umbrick's level, and have this day cut the lode, where it was heaved by a slide 2 1/2 fathoms, and is worth at this point full 3 tons of silver-lead ore per fm. This appears to be a very important discovery, as it is not likely the old men have worked on this lode below the Umbrick's level; therefore, the lode continue good we shall have back stopes for many fathoms in height.

The Wildberg Mining Company have advices to Nov. 14:—The underground work is proceeding well, considering the mine is so very hard. The different

bargains are worth for silver-lead ore as follows:—Michael's shaft, 2 1/2 tons per fm.; the end driving west from the bottom of No. 1 sink, in Umbrick's level, 4 tons per fm.; and the four stopes in the back of this level will average 3 tons each per fm. The end driving east from Carter's shaft is at present passing through a channel of scherf, under which the Erslebstergang found a rich shoot of ore a little further east, and we hope to reach the same about the end of this month. The stopes in the bottom of the end, about 3 inches behind, is worth 3 tons per fm., but the sink going down near Carter's shaft is poor; nevertheless, this must be got down as quickly as possible, and the driving started to get under the said shoot of ore, so as to get back stopes. Carter's shaft is still very hard, but in the bottom we have some small branches of lead ore, from which we shall soon get into a change of ground. The lode in the Erz Kammer is worth full 10 tons of silver-lead ore per fm. In conclusion, I am most happy to inform you that we have driven a cross-cut south from the midise driving, west from the No. 1 sink, in Umbrick's level, and have this day cut the lode, where it was heaved by a slide 2 1/2 fathoms, and is worth at this point full 3 tons of silver-lead ore per fm. This appears to be a very important discovery, as it is not likely the old men have worked on this lode below the Umbrick's level; therefore, the lode continue good we shall have back stopes for many fathoms in height.

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THE PROGRESS OF MINING IN 1856.  
BEING THE THIRTEENTH ANNUAL REVIEW.

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Notices to Correspondents.

•• Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly filed on receipt: it then forms an accumulating useful work of reference.

VENTILATION OF COAL MINES.—In reply to Mr. Hopton's letter, contained in your last Journal, I shall (nothing unforseen preventing) expect to see him present, to take part in a public discussion on the Ventilation of Coal Mines, which will take place on Dec. 2, in the National School Room, at Hatton-le-hole, at seven o'clock P.M.—J. WALES: *Hetton Collieries*, Nov. 17.

STATE QUARRIES.—Having noticed the enquiry of "J. B." (Liverpool), as to the reason of Lord Palmerston and Huddart and Matthews' quarries being called to inspect and report on slate quarries more than other agents.—my belief is this, because they are well-known practical quarrymen, and that their skill in working the quarries of which they are the managers brought them to the notice of the public; and, further, I believe that the opinion of either gentleman may be relied on. I fully agree with "J. B." that men who are agents for good quarries are generally called to inspect, when, perhaps, men of superior knowledge are unnoticed, because they never were fortunate enough to get appointed agents of good quarries. I thought "J. B." had become a railway manager since he left the Dinas Ddu Quarry; but am glad to find he is still in the mining field, and hope to hear from him often.—EVAN EVANS: *Brynmawr Quarries*, Nov. 17.

IRON MANUFACTURE.—The series of papers, "Data for the Use of Blast Furnace Managers at Iron-works," by Mr. S. B. Rogers, of Nant-y-Glo, originally appeared in the *Journal* from Dec. 18, 1841; they were again published, revised by the author, from Nov. 12, 1842. Mr. Rogers's new work, on "Iron Metallurgy," is now ready for delivery, price 25s.

KEWICK MINES.—Can any of your correspondents, or will the committee of management, inform the out-adventurers what is doing at the Kewick Mines? I called attention some time back to the reports in the *Journal*, which were very flourishing, so far as the quantity of ore said to be in the stopes and pitches (as much as 6 tons per fm. in the aggregate), but it was in vain I looked for sales to correspond with this. If I am rightly informed, the captain and purser have been dismissed, and fresh hands appointed; but this I do know, that I have had a call of 15, or 30 shares, or £s. per share, since which the reports have been expounded from your *Journal*. In an article, on March 12, 1855, it was stated that the committee of management were among the most respectable merchants in the City, but that they wanted a little more mining knowledge. Surely they have had time to supply that want; at all events, they might have had the mine inspected by some competent person, when they found so many levels, stopes, &c., producing so much ore according to the agent's report, and so little sale being effected. I trust some will enlighten us as to the true state of the mine.—A SHAREHOLDER.

NORTH STAFFORDSHIRE CONSOLIDATED MINING COMPANY.—"A. E." (Manchester).—The company has ceased to exist for some time past. The last place in London where they carried on business was 25, Tokenhouse-yard, Mr. J. T. Tidd being the agent.

CHANCELLORSVILLE FREEHOLD GOLD MINING COMPANY.—It appears to me that a great outcry has been made against the management of this company, because they have not reduced the ore at the time they promised, and returned gold. Any one acquainted with quartz mining must be aware of this simple fact, that although hundreds of tons of quartz may be raised, yet it is only in particular parts of the stuff that the gold is found; for instance, gold may be discovered in a certain portion of a quartz vein, afterwards following the bed for hundreds of fathoms it will completely disappear. May we not, therefore, assume that the stuff advertised by Mr. W. S. Trotter, as lying there in 1855, was worthless, and that Mr. Harris, when he crushed the 7 tons obtained gold from it, but, probably, now has been grinding the remainder without any result. This may account for the probable delay. However elaborate the mechanism may be, it is impossible for the greatest talent to extract gold from a matrix in which it does not exist.—COMMON SENSE.

MANGANESE STEEL.—I understand that manganese has been introduced into some large ironworks in Lancashire for making a rough kind of steel. Can any of your correspondents inform me for what purpose the steel thus made is applied? what is the method of manufacture, and whether the process is the subject of a patent?—S. X. S.: Newcastle, Nov. 19.

IMPROVED SAFETY CAGE.—You stated in your last *Journal* that a cage belonging to the Manchester Patent Hoist Company had, when put to the test, answered every expectation. Can you inform me what are the peculiarities in the invention? as, I think, if really an improvement, it could readily be applied to some of the pits with which I am connected. I prefer a published explanation to that obtained in a private letter, and, therefore, write you. By the description being printed, other inventions may be brought to light, which "will make your swan appear a crow," and the working miner will receive additional benefit.—H. C. BISLTON, Nov. 18.

In the notice of the auction at Garraway's, last week, it was stated that 180 shares in the Dairhull Mining Company were bought in at £s. each. This is an error; of the 180 shares originally advertised for sale for arrears of call, 170 were previously withdrawn, having been fully paid-up, and only 10 shares were so bought in.

WHEAL ZION.—I perceive that this adventure has again shifted its quarters. As an outlying shareholder, I cannot be expected to know the cause which has led to this step; it does, however, appear strange to me that no secretary appears to give satisfaction. Whatever opinion the committee of management may have in the property, their conduct in thus shifting from place to place cannot create any confidence in the shareholders. Why was not Mr. Henry Dallaway, who was elected for the sole purpose of looking after the interest of the Bath shareholders, summoned to the last meeting? Such a question as the dismissal or suspension of the secretary ought to have been discussed in a full committee, instead of being decided, as it was, by a section.—P. P.: Bath, Nov. 16.

QUARTZ ROCK COMPANY.—Will any of your readers kindly give me any particulars relative to the Quartz Rock Gold Mine scheme? I am unable to procure information in a proper commercial manner, on account of there being no office, which I beg to plead as an excuse for troubling you.—A SHAREHOLDER: *Brigstock*, Nov. 18.

"BIG BEN."—"Founder" (Devon) will find his views corroborated in a notice respecting the great bell, in another column.

WHEAL MARGARET.—My letter of the 3d inst. had nothing whatever to do with any of the officials—in fact, not one of them; nor is any one excepting yourself, that I am aware of, cognisant of the authorship. I am, however, pretty well acquainted with the mine, but am open to conviction.—AN OLD SHAREHOLDER: *Finsbury*.

[This announcement renders the publication of the letter of "An Adventurer" unnecessary. Attention having been directed to the matters discussed, doubtless more caution will be exercised, and defects rectified. The fact of Mr. T. Trewick, Jan., having had to retract his statement, that most of Wheal Kitty tin had been extracted from Wheal Margaret, must have its effect in checking the circulation of similar "rumours," emanating wherever they may. If proprietors were to insist on the publication of authenticated reports, much mischief would be averted, and in some cases knavish attempts defeated.]

ST. JOHN DEL REY MINING COMPANY.—"R. M." (Bragg).—The last dividend of 12. was declared November, 1856. The amount paid is £1. 15s. per share, upon which 3d. 7s. 6d. has been received by the proprietors, of whom several are original holders, consequently not at all affected by the various fluctuations in the market.

T. S. B." (Brighton).—The resolutions of private meetings of directors and committee-men, as a general rule, are never made public, while to those of shareholders great publicity is always sought whenever the directors deem it necessary for the welfare of the association. Instances do occasionally occur where the resolutions of committees are reported; but in general this only takes place where some particular object is required to be brought into notoriety.

WHEAL UNY.—"J. L." (Brighton).—A report of the last meeting appeared in the *Journal* of Oct. 17. A call of 5s. per share was made, which was expected to be the last. The total amount expended by the present adventurers, in round numbers, is 25,600.

CARNSORTH AND SPEARNE CONSOLS.—Perceiving in a recent *Journal* some just remarks upon these two tin mines, and being a shareholder in each, I may be allowed to add a few particulars to those already published. Carnsorth, after making heavy calls for several years, paid a few shillings in dividends, but has now ceased for nearly two years. But I would more particularly allude to Spearne Consols, adjoining, which paid its last dividend on Dec. 10, 1853, and for the last four years has unceasingly made heavy calls. The reports are meagre and unsatisfactory, yet the everlasting committee always pays a vote of thanks after the usual heavy call has been made. It is difficult to obtain information: your call is demanded as soon as made, under legal threats, and your name printed in full as defaulter, and sent round in reports to shareholders, the arrears being frequently but a few shillings. The purser of these two mines is at least one-third owner, and rules accordingly, as representing the majority, regardless of the shareholders' remonstrances. I call upon the shareholders to convene a meeting, or, by proxy and unity, to cause these mines to be properly inspected and developed, and thus prevent the continued heavy calls (especially with money worth 10 per cent.), without results.—WELLESLEY A. ASHMOOR: *Guernsey*, Nov. 17.

TANNAINE MINE.—"Inquirer" (Dorset).—This mine, and the whole of the materials, were sold, by auction, on Oct. 20, 1852 last, but as it requires some time before the assets can be divided, it is not an uncommon circumstance for sales to take place in the shares, even after the property is disposed of. Hence the quotation last week.

WHEAL EDWARD AND WHEAL ARTHUR.—Being interested in Wheal Edward, and having waited a long time in the hope of seeing a settlement of the question relative to the quantity of ore taken from Wheal Edward by Wheal Arthur, I now beg to bring the matter before you, as it seems to be just in the same position as it was some time ago. It appears that two diallers from the far West have been engaged to dial, inspect, and report on the amount that should be paid. Now, I would suggest that, instead of taking so much trouble, and causing so much expense, two disinterested agents should be appointed, and, in the event of their not agreeing, let a third party be called to give his opinion, which should be binding on both sides. I do not believe Wheal Edward adventurers want one penny more than is just and fair, and, on the other hand, the Wheal Arthur, I am sure, wish to pay what is right; therefore, I trust a settlement of this affair will be urged, whether it be for 500l. or 5000l. The loss of the interest on this amount is bad enough for the Wheal Edward people to bear, I should, therefore, suggest that all the expenses of dialling, &c., be borne by the Wheal Arthur Company. Should this not be settled prior to the next Edward meeting, I would advise that steps be taken to have the matter disposed of, as it has been in hand more months than it ought to have been.

SHAREHOLDER: *Leadenhall-street, City*.

DOU MOUNTAIN MINING COMPANY.—Can you inform me what the directors are doing, and when it is likely they will call a meeting?—H. P.: *Post Office*, Nov. 19.

THE GREAT HEWAS MIN.—"A Subcriber" (Bristol).—The tin sold in July, 1855, amounted to 518. 9s. 2d.; July, 1856, 607. 3s. 3d.; July last, 1081. 19s. 8d.; Aug. 1855, 525. 14s. 5d.; Aug. 1856, 655. 19s. 5d.; Aug. last, 1298. 18s. 4d.; Sept. 1855, 376. 5s. 7d.; Sept. 1856, 816. 18s. 9d.; Sept. last, 1335. 13s. 7d. The next sale must be materially affected by the recent fall in tin.

JOINT-STOCK COMPANIES.—"H. P." (Bury St. Edmunds).—There is no necessity for making the liability of the shareholders limited, the Act expressly providing that companies may be registered with or without limited liability. In the case of a limited company, each shareholder would be liable for the nominal value of the shares he subscribes for; thus, if he subscribes for 100 shares, of 5s. each, his liability would be 500l., and we opine he could not free himself from liability under that amount. With regard to forfeiture, shares may be forfeited for non-payment of calls, and then become the property of the company; but "A Shareholder" rather refers to relinquishment, which could only take place provided a clause were inserted, authorising the directors for the time being to accept the transfer of the whole of the company or any shares which shareholders may wish to relinquish; and the insertion of such a clause would evidently be an abuse of the Act, unless it could be made imperative upon the remaining shareholders to bear the responsibility that attached to the shares which cannot be done. This objection would, of course, only apply where the relinquishment was large, as otherwise the position of the creditors would be no worse than if there a company commences business before the capital is subscribed. For the protection of creditors, a clause, rendering the promoters liable for all debts contracted until the whole capital is subscribed, is much wanted; and from the facilities offered for fraud under the present system, there can, we think, be little doubt that some such clause will be,

spare the time, or are willing, to descend a Cornish mine to view such matters, especially if a correct idea can be conveyed by a true and graphic description. Whilst stating the outlay to be the enormous sum of £40,000, we must recollect £12,000, only came out of the pockets of the adventurers, and that ought fairly to be called, and is, the capital of the company, who have been so richly rewarded for their patience, which has been their chief merit, and is so worthy of imitation.

In the total absence of letters from Australia on the present occasion, in consequence of their transmission from the *Emu* steamer to a packet boat in the Red Sea, we are confined to the information conveyed in the few newspapers which are to hand, and necessarily without that exclusive private communication which has enabled us to anticipate for our readers almost all important matters connected with these colonies. This fact is shown by the present advices, which are from Melbourne to Sept. 16, and from both Sydney and Adelaide to Sept. 11.

It will be remembered that in former remarks our correspondent's letter from Melbourne enabled us to declare that the report of the railway committee was a nonentity in a practical sense, and which would meet the fate of the resolutions of previous committees, which had produced no better result from their labours than the one which has recently closed after a deliberation of nine months. By the proceedings in the Legislature on Sept. 15, the day before the departure of the packet, we find that Mr. HAINES, the Chief Secretary—that is, the Premier—in answer to remarks from Dr. EVANS, expressed his opinion that "as to the railway report he considered it quite a superfluity—in point of fact, of no use;" to which Dr. EVANS equally agreed, and said it was practically of little value, and furnished but a very small modicum of information on the subject. The House was left in discussion as to the merits of the routes proposed by the select committee—namely, Melbourne to Sandhurst, and Geelong to Ballarat. Such was the proposition of the majority of the members who drew up the report; but it must be remembered that it was merely an expression of opinion, not a final decision, which necessarily is left for the Legislature generally to determine; and as popular opinion is evidently opposed to the plan suggested, it is clear that the expression of the Minister foretells the fate of the recommendation.

The *Melbourne Argus*, which is the *Times* of the colony of Victoria, dwells at some length upon this question. "The proposed lines," says the writer in that journal, "are not those which would confer the greatest benefit on the greatest number of people; that on public grounds we ought to concentrate our energies on a central trunk line, from Melbourne to Ballarat in the first instance. In addition to these reasons, there is one which should render us very cautious. Railways we must have, but we want experience; this can be gained with safety in the construction of a well-chosen line, such as that from Melbourne to Ballarat, the merits of which are so superior."

Public meetings had been held to draw up petitions in opposition to the report. One held at Bacchus Marsh was numerously attended, and the speakers generally expressed their full confidence that a line direct from Melbourne to Ballarat would be carried through, either by the Government or private enterprise, the latter of which was preferred; which the meeting, by resolution, bound themselves to support, and which the merchants of Melbourne and Ballarat were likewise pledged to secure.

The Crown Lands Bill had passed the lower House, after strenuous opposition on the part of the minority, but it was fully expected that in the Legislative Council the bill would be materially amended, to render it more congenial to public opinion.

The commercial position of affairs at Melbourne were not satisfactory. Business was depressed, and excessive stocks forced into the market. The yield of gold continues about the average of the past twelve months, and several fresh discoveries were reported.

The following departures of "gold ships" from Melbourne for Europe have taken place since the sailing of the *Royal Charter* on August 14—the *Seringapatam*, August 15, with 12,183 ozs.; the *Essex*, Sept. 2, with 105,255 ozs.—which, with the amount of 525,918 ozs. brought by the *Emu*, makes a total sum of about 995,688. Various ships with precious metal, advised by the *Royal Charter*, are still overdue. The total amount of gold shipped since the commencement of 1857, including the shipments to the neighbouring colonies, had been 79 tons 1 cwt. 3 qrs. 20 lbs. 11 ozs. which, at 80s. per oz., gives the value of 7,636,602. The receipts of gold by escort continued to be far in advance of those in the corresponding period in 1856. Ballarat gold sold on the fields at 80s. per oz., and other fields in proportion, but a reduction of 6d. per oz. expected. The new gold field at Mount Ararat promised to be very successful. The population is estimated at from 40,000 to 50,000; and the second fortnightly escort, which had just arrived, is reported at 17,370 ounces. The heavy rains which have lately fallen on most of the older diggings have enabled the men more generally to realise on the stuff which has been accumulating around the puddling machines, the quartz crushers, and elsewhere, for many months past; and as they wash off, it is expected that the regular returns will show a steady and continuous increase.

An unhappy fatality seems to await the Australian overland mail service. The unfortunate disaster which has occurred to the *Emu* steamer, with the homeward mails of September from the different colonies, again throws the postal intercourse into irregularity; for it appears that she is rendered quite unfit to return with the October outward mail, and which must necessarily wait for the arrival of the *Sinope*, so that the October and November bags will leave Suez together, while it is equally possible that the missing September letters, per *Emu*, will come forward with the October advices, per *Sinope*, which will be due at Suez Nov. 23; and it is possible that telegraphic intelligence may be received next Thursday *via* Malta and Cagliari. It will be remembered that the *Emu* went out from England to take the place of the *Oneida*, and, strange to say, she likewise, on her first postal trip between the Australian colonies and Suez, has been disabled, and is unseaworthy for the present service; so that until she is enabled to resume her position, or another steamer is dispatched from England to take her place, the service to and fro must be subject to disarrangement. We understand that one box left on board the *Emu*, supposed to contain newspapers, proved to be letters. The whole of the mails, with this fortunate exception, are with the *Arab* packet-boat, and amongst which are no less than 11,000 registered letters, the delay in the receipt of which, in these times of monetary pressure, may be of more than usual, if not of serious, consequence.

#### SIMILARITY OF PRODUCTION FROM DIFFERENT CAUSES.

BY RYAN HOPKINS, C.E., F.G.S.

Two medals of the same kind of metal may appear, to an ordinary observer, to have been produced by the same means; yet a practised, scrutinising, and microscopic eye will detect the difference between the one produced from melted metal, and cast into the mould, from the medallion formed by electro-precipitation within the same cast; the latter being far more perfect in the details than the former. In like manner, the golden nuggets mixed with quartz, the metallic silver and copper enclosed in the joints of quartz and other rocks, have a very different appearance to that of metal filtrated or poured into the cracks of stones in melting furnaces. In the one case, the rocks are found in their transparent and moist state, with all their fine angular points uninjured, and the metal receiving the impression of the minutest strike; whilst the other presents very different aspects to an experienced eye, however similar the two cases may appear on an ordinary observer.

The same, again, with slags. It often happens that the slags from furnaces, and those encrustations seen along the surface of some ferruginous rocks, are apparently so much alike, that superficial observers cannot distinguish the difference between the one and the other. Hence arises the common notion that they have been produced by the same agency—that is, by fire. Yet very slight examination, and the knowledge of what is constantly going on within and on the face of rocks, would show that the one had a beautiful mammilated and radiated structure, and presenting within totally different conditions to the slag produced by fire. These natural oxidising ferruginous masses may be seen forming somewhat rapidly on a large scale in India, Malacca, Banca, Java, Victoria, and many places in South America. The blistered iron ore is another example of natural production analogous to slag.

We often hear persons say that all hornblendic rocks are mere ancient lava, and that this has been proved, because it has been found that this rock has changed the coal into coke where it is found in contact. I never saw a single instance where the so-called lava (the basalt and tondstone of the North) have converted the coal into true coke. That this rock should

change the character of the coal at the point of contact is very natural—so will a steel knife, if left in an apple, make the latter black; but to say that this change is similar to that of burning coal and converting it into coke, is purely an assumption. It is well known that many of those things which excite in our organs, especially those of taste, a sensation of heat owe this property to chemical stimulants, and not at all to any fire. There are many chemical agents which, from their corroding, blackening, and dissolving or drying up the parts of some descriptions of bodies, and producing in them effects not generally unlike those produced by heat, are said in loose parlance to burn them; and this error has even become rooted into a prejudice by the fact that some of these agents are capable of becoming actually and truly hot during their action on moist substances. But we should be greatly deceived if we referred only to these occasional effects of intense chemical action as an indication of the presence of fire. We have only three primary divisions in nature—solid, fluid, and gaseous—we have no igneous liquids in a natural quiescent state, like the ocean—hot or melted matter is merely a temporary effect of chemical decomposition.

Again, the phenomena of cleavage planes have been sadly abused by eminent men. Attempts have been made to prove that the fine crystalline planes have been produced by mere pressure. It would be difficult to conceive how the fine roofing slate cleavages of North Wales, for instance, could be produced in vertical bands for so many miles through different rocks, by mere pressure. If the attempted imitation of cleavage planes by pressure in mud and sand is to be taken as an example, so will a brick indicate the mode by which crystals of felspar have been formed into rhomboids. It is much to be desired that those who enter into these subjects should have their minds a little more expanded by the study of nature as it is; not by merely hurried and short visits, but by prolonged and extensive investigations in many regions.

The planes of deposition have a very different aspect to the planes of cleavage from semi-crystallisation. The one will divide in rough tabular masses, whereas the other will split in one given direction, like the meadowly planes and grain of a great trunk of tree—i.e., in longitudinal splinters. The schistose rocks have a fibrous as well as laminated structure, and that structure is found in one given direction; hence the facility of attributing the phenomena to the effects of pressure. The contractions and elongations of the crystals within the masses are like the knots in trees, subject to lateral, twisting, and longitudinal mechanical action; but that does not prove that the grain is produced from the same cause.

#### ON THE SANITARY CONDITION OF MINES, AND THE HEALTH OF MINERS.

MR. HERBERT MACKWORTH, F.G.S., communicated some valuable information in a lecture at the Bristol Mining School. The object of these lectures is to present the subjects taught in the Mining School in a popular form, and at the same time to impart that practical and useful knowledge which, followed up in detail by the instruction of the mining master, would qualify those practical men who attended them to be fitting competitors for the annual certificates and other prizes. It should be made known in many districts that an annual examination would be held every summer for all working men at collieries who wished to be known as men of intelligence and ability.

The subject of this lecture was one that not only came constantly under the notice of working men, but more powerfully affected their welfare than, perhaps, any other circumstance with which underground labour had to contend. The conditions which pervade all mines were, that a miner excavated a tunnel or space before him sufficiently wide to allow him to work and progress in the cheapest manner. This excavation served for the extraction of the materials, the drainage of water, and the supply of air. In coal, and in some ironstone mines in England, it was the custom to ascend and descend the shafts by ropes and chains; in the other mines the miner has access to his working place by ladders. The effect on the health and lives of miners, by having to ascend many hundred yards of almost perpendicular ladders at the end of a day's work appeared to be very serious. Dr. Carlyon stated, that in order to judge of the extent of the heart's distress when the miner has ascended by ladders from a depth sometimes more than 200 fathoms, he should be seen emerging from the shaft on his getting, as it is technically termed, to grass, his heart beating as if ready to burst, his whole frame bedewed with sweat, and his strength ready to pass from the extreme of feverish excitement into the opposite state of double exhaustion. The pulse at this time was on an average double as quick as in the natural state, and the respiration at least quickened in the same proportion. Where men had to ascend and descend a furnace shaft, the unburnt coal from the furnace was injurious. No up-cast or furnace shaft ought to be used either for the egress and ingress of the workman nor the winding of material.

The condition of the passage along which the material is conveyed ought to be attended to, so as not to allow the accumulation of mud or any kind of filth whatever. In low seams, as in the Yorkshire and other districts, the position of the boys hurrying or carting was almost horizontal, the height through which they had to push their trams did not in many cases exceed 30 inches. Conceive the effect of the constrained attitude and laborious exertion in such a contracted space, and the faces of these boys within a few inches of pools of mud and water, in which were worked up the putrefactions and nuisances of years.

The testimony of a Yorkshire collier was to the point. "There was no

doubt but that their health was very much affected by working in the pit

very young, for they have to work without waistcoat, handkerchief, or trousers. They have their work set, and they are bound to perform their full task, so, of course, the harder they work the sooner they get done.

This causes a kind of rivalry, or competition, which causes them to work so very hard that they are in a continual state of fermentation and perspiration.

The roads are very wet in some of the pits. The boys are continually wet on their feet, sometimes plastered up to the knees in dirt and sludge.

What with being in a state of agitation and perspiration, and long exposed to a very strong and impure atmosphere, with almost a naked skin, in such a state they absorb the impure air through the pores of the skin, and continually breathing this kind of air affects the lungs and liver,

so that colliers are very subject to lung and liver complaints; and with being continually wet on their feet and legs, they have inflammation in those parts, and in their knees; boils and rheumatism in all parts of their body, but more particularly in their lower parts, and in all their different stages and degrees."

The oxygen of the atmosphere inhaled produced a slow combustion, and the oxidation in the process of breathing causes a mild and genial warmth throughout the frame. All vital activity is derived from the mutual action of the oxygen and food. The 14 ozs. of carbon which are burnt into carbonic acid daily must be taken in food. A horse burns 97 ozs. daily, consuming for this purpose 13 lbs. 3 ozs. of oxygen. The food, therefore, should be in direct ratio with the supply of oxygen. These conditions, joined with a due proportion of sleep, enable a man to perform a daily task equivalent to carrying 30 lbs. a distance of 72,000 feet. Any causes which disturb this balance produce a diminution in the average amount of work performed. According to experiments by Dr. Wehrle, the oxygen consumed by a candle per minute amounts to 18.6 cubic inches, and the carbonic acid gas formed to 4.2. When the quantity of oxygen is reduced from 21 per cent. to 18 or 16, an ordinary minor's light is extinguished; an Argand lamp will burn until the proportion is reduced to 14 per cent. The average of 18 samples of air, taken from different mines in Cornwall, was—Oxygen, 17.067 per cent.; nitrogen, 82.845; carbonic acid, 0.985. It has been approximately determined that a deficiency of oxygen of 10 per cent., or an excess of carbonic acid gas amounting to 8 per cent., will quickly produce stupor, and eventually death. The lecturer has frequently met with instances in mines where the men were obliged to work in the dark, from want of ventilation, some being pointed out to him who were particularly good hands at it; and he had occasionally to spend the night in parts of mines where the candles would only keep alight by being tied two or three together, and held horizontally. Some time ago, the manager of a colliery was killed by remaining ten minutes in a place where the men had at last refused to work.

Various other sources of ill-health to the miner were shown by Mr. Mackworth, and suggestions for their removal, to a great degree, given.

The occupation of the miner was not necessarily deleterious to health.

Equal, if not greater, caution and care were necessary to remove nuisances and other causes of disease in the mine to what was exercised by the Board of Health in towns and villages.

An intelligent mine manager might be known by the attention he gave to the health of the miner, and his concern for their moral and intellectual welfare.

#### THE MINING AND INDUSTRIAL INTERESTS OF CORNWALL.

[FROM OUR CORRESPONDENT IN WEST CORNWALL.]

Nov. 19.—The copper smelters last week lowered the standard much more than seems to be necessary, even in these times of monetary difficulties, trade embarrassment, and depression. The copper trade does not appear to be in any great difficulty, inasmuch as the smelters are still enabled to keep up the price of cake copper to the consumer at 121. 10s. per ton. For the last eleven weeks cake copper has been maintained at that price, and yet during the past nine weeks the smelters have been reducing the price paid for ore to the miners, and, therefore, increasing their own profits. The reduction last week was almost beyond precedent in its amount as compared with the previous week's sale; and during the last two months the standard has fallen to the following extent:—

|           | Tons. | Standard. | Prod. | Price per ton. |
|-----------|-------|-----------|-------|----------------|
| Sept. 10. | 424   | £147 15   | 6½    | £9 17 0        |
| Nov. 12.  | 4703  | 124 11    | 6½    | 4 17 6         |

Between these two dates (allowing for the difference of produce between  $\frac{1}{2}$  and  $\frac{1}{4}$ ) the standard has fallen 26s., and the price per ton of ore at least 14. 10s. The ores which the smelters bought at Redruth last week, 4703 tons, if they had been sold two months ago would have made 7054s. more than they did last week. The smelters give that much less to the miners, whilst they keep up the price to consumers the same as it was two months ago. The ores bought last week will probably be smelted and sold as fine copper in from two to three months from the present time. If, then, the smelters keep up the price of fine copper until that period (and it is rather likely to be higher at that time than lower) they will pocket 7054s. upon last week's ticketing, which they would have not obtained had they not thrown down the standard. The miners lose that amount, and the smelters gain it; the consumers profit nothing. The price given by the smelters for ore copper last week was 79. 15s. per ton; the selling price of cake copper is 121. 10s. per ton; so that between the buying and the selling price the smelters have now a difference of no less than 41. 15s. per ton, leaving them, after paying for conveyance to Swansea and smelting expenses, an enormous profit upon their purchases. It is not wonderful that the smelters get rich; but is it not surprising that there is not more competition in such a lucrative business? Surely it will not be long, when the money market gets in a better state, before capitalists will see that another company of copper smelters is very much demanded, and likely to prosper.

From Oct. 21 to Nov. 12, the price of English block tin fell 20s. per ton, and it is reported in Cornwall that a further fall of 6s. per ton has taken place, making a reduction of 26s. per ton in less than a month. Such a decline is unprecedented, and, if long continued, will ruin many of the tin mines, and probably stop the dividends of the best of them. Take, for instance, Dolcoath, selling about 50 tons of black tin per month. The fall of 26s. per ton on block tin (reckoning tin ore as containing 70 per cent. of metal, which is about the average of the county) will make 187. 4s. per ton on black tin, so that the fall will reduce the profits on 100 tons (Dolcoath's two-monthly sale) to the amount of 1820s. Dolcoath paid on Oct. 12 a dividend of 8s. per share, or 1432s.; so that the loss now on a two-monthly sale will exceed the dividend then paid for two months. Dolcoath has large reserves, and can increase sales to meet expenditure, but what will be the position of many other mines in less favourable circumstances? The hope, however, is that this position of things will not long continue. When the crisis is over, and trade returns to its accustomed channels, the price of tin is sure to rapidly advance; and would it not be better for shareholders in tin mines to draw from their pockets to meet the present emergency, and stock their tin, than to sell it at the present great sacrifice? Curtail all expenses, stop exploration, and stock their tin until they can get for it something like its value. If they sell it now to the smelters, the latter will stock it, and make immense profits when trade revives and prices advance.

There is very little doing in mining shares; still, where a mine looks well, purchasers are not long wanting. The Chacewater people are very sanguine about the prospects of Great Wheal Busy. If the mines turn out as they anticipate, it will be an excellent thing for the population of the neighbourhood. Great Wheal Alfred is said to be looking more favourable. West Alfred continues to look promising for a good mine. East Basset continues to hold good both on the copper and tin lode. An improvement in West Grenville has attracted attention to that mine. Rosewarne Consols is looking very promising. At West Rosewarne the north and south lodes have come together, and are likely to make ore. At South Seton a 50-in. engine has been set to work. Alfred Consols continues to look well, yet the price of shares has declined. Ballewidden is likely to be "knocked," principally in consequence of the great fall in the price of tin. Very little is doing in dividend copper mines, and shares generally are low. It is remarked, that although cake copper is now 121. 10s. per ton, the price of copper ore was last week 16s. per ton lower than it was in the corresponding week of last year, when cake copper was only 110s. per ton. This does not look fair on the part of the smelters towards the miners.

At the Royal Institution of Cornwall annual meeting, Sir Charles Lemoor resigned the office of president, and Mr. Tweedy, banker, of Truro, was elected in his place. Amongst the presents to the Museum, the society received a series of specimens of nickel, from Captain Williams, of St. Austell Consols, and also a paper on the subject. The council of the society stated that they received with peculiar pleasure to this paper, as an evidence of the very important information that would be obtained, could the agents of our mines be induced to follow the example thus set them; the council recommended Capt. Williams for election as an associate. The council also referred to a statistical paper which had been contributed to the Royal Cornwall Polytechnic Society, by Mr. Couch, of Penzance, stating the results of his enquiries with regard to the extent to which the lives of the mining population in St. Just, in Penwith, are affected and shortened by their occupation. The council remarked:—"It is now many years ago since a very strong impression was made on this country by a realisation of the extent to which the life of the Cornish miner was shortened by his occupation, and this institution has not failed to do what it could in the cause of humanity, by throwing further light on the subject from time to time. It is feared, however, that the evil is little mitigated; and there is reason to apprehend that its continuance, by deteriorating constitutional vigour in successive generations, may lead to still increasing mortality, a mortality involving females and children, as well as those who work underground, and to a stunted and ill-developed condition of a large section of the people." Amongst the papers contributed to the society, and read at the meeting, was one on subterranean temperature observed at the Chanarcillo Mines, in Chili, by Mr. William Jory Henwood, F.R.S., F.G.S., Member of the Geological Society of France, &c., &c. This paper, with the discussion it occasioned, was of considerable interest, and I shall probably advert to it on a future occasion.

In the Stannary Court, last week, an action was brought by Wheal Trelawny Mine against Wheal Trebene. It was a suit in equity to compel the latter mine to pay water-charges in consideration of benefit received from the engines of the former mine. These two mines are in the neighbourhood of Liskeard, Trelawny sett bounds Trebene on the north, east, and south. The main, or engine lode, runs nearly north and south. Trelawny has a 70-in. engine in the north part of the sett, and a 50-in. in the south. Trebene, a small sett lying between these two engines, was of course drained by them to a considerable extent, especially by the north engine. Trelawny commenced working in 1844, about two years before Trebene, and the latter mine was enabled to sink dry to a 30 fm. level, and to raise 20,000t. of silver-lead ore before putting up an engine. There had been a previous agreement or two on the part of Trebene to pay Trelawny for the use of water for dressing, and at length also for flat-rods, which were extended from Trelawny engine to Trebene shaft for

engine. Trelewans agents stated, that if they had driven their levels in the usual manner, and not at a great incline towards Trelewans north shaft, Trelewans would have been drowned on the slide being cut through at the different levels. It also appeared that Trelewans Mine had ceased working in July last, that Trelewans had in vain demanded payment for water-charges after the previous October, and now sued Trelewans for £55, on account of these charges. The Vice-Warden, after hearing the evidence and arguments on each side, expressed his opinion that the contract (as drawn up by Capt. Charles Thomas) terminated in the twelve months, but that the plaintiff might have a claim on the ground of quantum meruit, and he considered that the defendants, by the entries in their cost-book, showed that they thought they ought to pay for the months of Nov. and Dec. He recommended that the case should be settled without a formal judgment from the Court, and the advocates promised to write to their clients on the subject; and there the matter now rests.

#### REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

Nov. 19.—The numerous failures reported during the week have had a depressing influence on the iron trade. The works in this district at present are fully employed; but there is a scarcity of orders, and complaints of underselling are more prevalent. The demand for pig-iron is flat, and prices are low.

The Coal Trade is brisk, owing to the demand for winter, and prices are regularly maintained. A fearful accident occurred at Staveley, on Sunday night, by the suffocation of twelve men, in one of the collieries at Mr. Barrow's works. It appears that a fire took place in the lamp-room of the pit, and as soon as it was discovered information was given to Mr. Cooper, the resident underwriter, who called together twelve of the most experienced colliers at the works. They went down the pit, and it is said that Mr. Cooper ordered one of them to open an air-door, for the purpose of checking the air on the fire; no sooner had the door been opened, than the course of the ventilation was reversed, and the smoke and foul air was driven upon the party, and they were suffocated before they could be rescued. Messrs. Woodhouse and Jeffercock, mining engineers, and Mr. Hedley, the Government Inspector, were telegraphed for, and they arrived at Staveley on Sunday afternoon, and proceeded to take measures for extinguishing the fire and recovering the bodies. They ordered the erection of several stoppings, which confined the air into one part of the pit. About four o'clock on Monday morning, eight out of the twelve bodies were recovered, but life had been extinct some time. The fire in the pit, which had ignited the coal, was raging so furiously that it was impossible to get to them, and Mr. Woodhouse and Mr. Hedley had a consultation, and determined upon putting a strong wall across the main incline, so as to confine the air into that part of the pit where the fire was, and by this means to choke it out. Four or five out of the twelve sufferers were managers at the works; and one was Mr. John Cooper, brother to Mr. Daniel Cooper, the resident underwriter, who had come upon a visit to his brother.

The half-yearly meeting of the Mill Town Mining Company was held to-day, at the Greyhound Inn, Mill Town, kept by Mr. Loft (Mr. C. Birns in the chair). The secretary read a statement of the accounts, which showed an available balance of £165, after the payment of all expenses. On Wednesday last there was a sale of ore amounting to 28 tons, the produce of the last four weeks' work of a portion only of the miners employed at the mine. The agent presented a very satisfactory report of the prospects of the mine. The company will now have a balance of about £400, after paying all expenses, and they passed a resolution to place that sum to the general account, and not to pay a dividend this month. The ore sold during the last half-year (not including Wednesday's sale) amounted to 2700 tons. The mine is doing exceedingly well, and the profits are likely to be doubled during the next month.

#### REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

[FROM OUR CORRESPONDENT IN SOUTH WALES.]

Nov. 18.—We have still to report unfavourably of the condition of our Iron and Coal trades, the former especially. Fresh disasters have marked the general commercial affairs of the week, and a strong depression is consequently communicated to the trade of these districts. The dearness of money is not the least of the difficulties under which ironmasters are at present struggling. But the event which has caused the greatest uneasiness here is undoubtedly the stoppage of the Wolverhampton and South Staffordshire Bank, and the incidental failures of six iron firms. We have had occasion in previous letters to refer to the intimate connection of the trade in Wales with that of Staffordshire, and any loss there must, we fear, infallibly create one here. It is known that several of our firms are concerned in the failures made known this week, but we trust that they are not so seriously compromised as to necessitate a stoppage. Certain it is, however, that a want of confidence is more and more shown, and the iron trade throughout Wales generally is far more gloomy this week than we have yet had to record. There seems to be a feeling that no dependence can be placed on either home or foreign houses, while the great source of our trade—America—is altogether stopped. At present we are, fortunately, enabled to confine our remarks to the general aspect of affairs, and have not as yet been placed under the necessity of referring to individual or particular instances of loss or ruin in South Wales.

Bad accounts reach us from Hirwain relative to the iron trade there. The iron-works belonging to Mr. F. Crawshay have not been in the most flourishing condition for some time. It is not long ago that, in consequence of a misunderstanding between master and men, the furnaces were all blown out, and that affair was not satisfactorily arranged without inconvenience on one side and loss on the other. Now the news is still more discouraging. The reduction in wages was badly received, and so much dissatisfaction was expressed that Mr. Crawshay had several interviews with his men, with a view to bring about a more peaceable state of things, but he did not succeed in his endeavours. Fears were entertained by some that the works would be entirely stopped, and on Friday last a notice appeared dismissing all the miners, padlers, patchmen, &c., numbering altogether upwards of 500 men, many of whom have wives and families, and must be reduced to absolute want unless some unexpected good should turn up. We should be glad to record next week more satisfactory intelligence from Hirwain, and sincerely trust that some plan will be devised by which the works may be carried on as before.

We give some particulars in our last of a turn-out of colliers in the Church Colliery, Rhondda Valley, and stated that one man was sentenced to a month's imprisonment for leaving work, the others being discharged upon promising to return to their labour. After they left the police court, however, they refused to do so, and were consequently again brought up on Saturday last. One of the men resolutely declared his determination not to return, and he was sentenced to a month's imprisonment. The solicitor for the prosecution asked the magistrates to remand the others, in the hope that they would repent of their folly, and this application was acceded to.

While in this district, we may refer once more to the disputed state of Aberdare, in relation to the Chairman of the Local Board of Health, Mr. Fothergill. It will be remembered that a charge was recently brought against him of tampering with certain voting papers used at the last election. He was proved to be innocent, but since then the wound has been reopened—fresh prosecutions are to be entered into, and the parish is in anything but a peaceable state. Two accidents have occurred here since we last wrote, each proving fatal to a collier. One died from being jammed between two trams. Among other accidents which have taken place we may mention the following additions to our constantly large list of casualties:—At Rhymney, on Saturday, David Thomas, collier, was crushed very severely by a fall of coal in the Cwm pit; his legs were broken, but it is thought he may survive his injuries. At Pontnewydd a furnace blew up on Friday, frightfully scalding a man engaged at it. He also is likely to recover. At Dowlais, another collier met his death by a fall of "bind."

In the neighbourhood of Pontypridd, Blaenavon, &c., many of the hands are only receiving three days' employ in the week, in consequence of the slackness of trade. This, in conjunction with the reduction in wages, has sadly altered the state of affairs.

On Monday proceedings were taken in the Court of Queen's Bench to compel four magistrates to hear and determine an information laid by Mr. Henry Mackworth, Inspector of Mines for this district, against Mr. John Phillips, manager of a coal mine at Nant-y-Glo. The Bench had refused to hear Mr. Mackworth's complaint, on the ground that he ought to have given notice of the violation of the rules with which the accused was charged. A mandamus was granted.

The half-yearly meeting of the Monmouthshire Railway and Canal Company was held on Wednesday, at the dock offices in Newport. A dividend of 2s. 6d. on each of the 1000 shares, and of 12s. 6d. upon the 250 shares, were declared for the Derby-half.

#### STOCK, MINING, AND RAILWAY SHARES IN IRELAND.

[FROM OUR CORRESPONDENT IN DUBLIN.]

Nov. 19.—There has been but little change in prices this week, and the fluctuations unimportant. In shares business has been more active, and at somewhat advanced prices. Mining shares also were more dealt in, and those of the General Mining Company for Ireland were quoted at 1 $\frac{1}{2}$  to 1 $\frac{1}{4}$  the day before yesterday; at this, however, only a few changed hands, as they were unsaleable at the commencement of the week; this change was owing to discoveries of some value which were made in three different portions of the property. These improvements I had myself the pleasure of witnessing, and have brought with me very beautiful specimens of the new ground; and in next week's Journal I will give a description of my visit: one thing, however, I cannot delay noticing, and that is the kindness with which I was treated by the ancient and experienced agent at the mines, Capt. King. He spared no trouble in showing me the mine, and gave every information to enable me to form an opinion of the value of the property; and from what I have seen I am fully of opinion that the tide has turned, and that the property has been rendered by his intelligence and perseverance a valuable one, owing to the measures he has taken to develop it.

The following are the latest quotations, as usual:—Consols, 83 $\frac{1}{2}$ ; New Threes per Cent., 88 $\frac{1}{2}$ ; Hibernian Bank, 32 $\frac{1}{2}$ ; Royal Bank, 29 $\frac{1}{2}$ ; City of Dublin Steels, 76; Consumers' Gas Company, 7 $\frac{1}{2}$ ; General Mining Company, 1 $\frac{1}{2}$  to 3 $\frac{1}{2}$ ; Mining Company of Ireland, 15; Wicklow Copper, 32 $\frac{1}{2}$ ; Ballymally Railway, 49 $\frac{1}{2}$ ; Cork and Passage, 12; Belfast Junction, 41; Dublin and Wicklow, 4 $\frac{1}{2}$ ; Great Southern and Western, 97; Midland Great Western, 47 $\frac{1}{2}$ ; Waterford and Kilkenny, 3; Waterford and Limerick, 18 $\frac{1}{2}$ .

Within the last few days I had the opportunity of seeing the Milltown Silver-Lead Mine, Tullia, co. Clare, and I have found it to be everything I was previously led to expect; indeed, a most valuable property. It is situated about 15 miles from Limerick, and 1 $\frac{1}{2}$  miles from the village of Tullia, and the mine has been opened adjacent to the road side. The opening is similar to that of a large quarry, and after descending about half-way down you find the lead dropping out of the rock, which is pure carbonate of lime in large solid cubes. From this pit very large quantities of lead and blende have been taken; the lead appears in strings, or veins, dipping down, and latterly a shaft has been sunk to a depth of about 15 fms. from surface, and there the lode has been cut, and at present looks well. A very excellent working whin drags this mine of any water which impedes progress. Under the superintendence of the intelligent manager, Mr. Flynn, a substantially-built lime kiln has been erected, and is returning a profit of fully 40 per cent., according to his calculation; and, upon making the necessary enquiries, I find that the culm could be delivered at the mine, were a little capital employed, at 10s. per ton cheaper than at present: this would make a very important difference in favour of the profits from the kiln. I was much struck by the surface indications, the deposits being generally shallow in limestone. The property could be worked extensively at little cost, and that which principally favours the undertaking is, that, without further dis-

coveries, the cost of opening up the property would certainly be returned, or nearly so, in profit, while a rich deposit, such as is confidently expected, and was the case with its neighbour, the Ballybickey Mine, would produce an immense return for, in that case, the fortunate adventurers. As this property is likely to be soon brought out under a new title, I will take some other opportunity of referring to it more extensively and minutely.

The official manager winding-up the Knockatrelane Mining Company has sought to make the directors liable for certain sums which they appropriated to themselves as remuneration for their services, and the Master has agreed in this view upon the evidence tendered.

#### INDUSTRIAL PROGRESS ON THE CONTINENT.

[FROM OUR PARIS CORRESPONDENT.]

Nov. 19.—The crisis, which happily appears to be subsiding in England, has, so far as I can gather, been but slightly felt here, while anything approaching to panic has been unknown. The depreciation that has occurred in the Government and other stocks is altogether insignificant, when the condition of the chief European and American markets is taken into consideration. The number of bankruptcies is not unusual, and those that have taken place present no extraordinary features. Without doubt there must have been considerable difficulty and inconvenience experienced by the commercial community, but they have not led to any pecuniary embarrassments generally. The metal markets in different parts of the country do not seem to have suffered from the effects of the financial situation. In Champagne, pigs are unsaleable, and no transaction has taken place in this class of goods for the last fortnight. This calm, as French journals euphoniously term it, may probably be due to the existing high rate of interest, but the lengthened stagnation has not abruptly terminated in commotion or perturbation. The actual necessities of commerce would alone induce purchasers to make their appearance, and it is only natural that they should postpone buying until money is cheaper, or supplies can no longer be put off. The nominal price is 155 francs per ton. Wrought irons are in demand, and works in full activity. Buyers have stood aloof so long that the stocks must be brought very low, if not exhausted, to judge from the rapidity and urgency with which orders are given. Holes are firm, at 324 to 340 francs; hammered iron immovable, at 370 francs. So true is it that good fortune is never wholly good, that manufacturers are tantalised in the midst of abundant orders, and an impossibility of taking full advantage of them. Water-power is far short of what it is in ordinary times. Rates are quoted at the old prices—390 to 400 francs per ton, No. 21, and 400 to 410 francs, for No. 29. Chains stand, mixed numbers, at 720 francs. A fall was anticipated in the price of iron at the last meeting of the Châloners masters, but which, nevertheless, did not take place, except in the Molen iron; they fell 8s. 4d. to 8s. 10d. The works in the Loire district are stated to be overstocked with rolls, and the present is regarded as a favourable opportunity for speculators to buy, which would be quite a godsend to the holders. Other metals are quoted on the Paris market as follows:—Copper, 329, 320 to 330 francs; Chilli, 280 to 285 francs; Lake Superior, 307 to 310 francs; Australian, 315 francs; Corocoro, 310 to 315 francs; sheets (red), 230 francs; ditto (yellow metal), 310 francs per 100 kilos, or 2 cwt.; Tin: Banca, 3490 francs; English, 3300 francs per ton. Lead: French, 650 francs; Spanish, 660 francs; sheets, 750 francs. Zinc: Silesian spelter, 750 francs; Vieille Montagne, 830 francs; sheet, 950 to 1000 francs per ton.

The following are the Customs returns for last month, and for the past ten months of the year:—

| Name.                  | Imported. | In bond. | Customs.             | Total imported. | Total dues for year. |
|------------------------|-----------|----------|----------------------|-----------------|----------------------|
| STEEL-bars             | m.-q. 824 | —        | Fr. 15,991           | m.-q. 9,977     | Fr. 27,570           |
| COPPER—English         | 6,277     | —        | 14,079               | 45,470          | 119,951              |
| Other countries        | 7,544     | —        | —                    | 49,944          | —                    |
| TIN                    | 4,350     | —        | 5,203                | 25,559          | 49,169               |
| IRON—Bars and rails    | 37,442    | —        | 21,726               | 395,372         | 561,972              |
| PIGS, English          | 47,934    | —        | 271,412              | 703,986         | 3,512,088            |
| Other countries        | 3,603     | —        | —                    | 102,297         | —                    |
| LEAD                   | 15,263    | —        | 66,725               | 310,023         | 1,119,625            |
| ZINC—Belgium           | 2,993     | —        | —                    | 27,278          | —                    |
| Hanseatic Towns        | 3,600     | —        | 4,738                | 51,414          | 43,652               |
| Other countries        | 25,496    | —        | —                    | 137,933         | —                    |
| NITRATE OF POTASS      | 1,250     | —        | 699                  | 46,545          | 45,949               |
| NITRATE OF SODA        | 9,927     | —        | 10,531               | 99,943          | 108,126              |
| COAL—Belgian           | 2,803,965 | —        | —                    | 19,987,373      | —                    |
| English                | 1,013,125 | —        | —                    | 10,884,573      | —                    |
| Zollverein             | 634,443   | —        | —                    | 5,993,930       | 5,993,930            |
| Other countries        | 7,727     | —        | —                    | 99,066          | —                    |
| SILVER—bar, &c., hotg. | 346,132   | —        | 1,230 htg. 3,707,852 | —               | 8,437                |
| GOLD—ditto             | 195,305   | —        | 12,261               | 1,535,429       | 262,362              |

The exportations of objects likely to interest your readers during the same period have been—

| Name.            | Exported in Oct.      | Total for year. |
|------------------|-----------------------|-----------------|
| Machinery, value | Fr. 890,756           | 5,665,860       |
| Silver           | hectograms. 2,606,604 | 20,028,887      |
| Gold             | 21,537                | 332,385         |
| Porcelain        | m.-q. 6,696           | 48,713          |
| Glass            | 22,273                | 231,001         |

#### GOVERNMENT SCHOOL OF MINES.

On Friday, Dr. PERCY proceeded to give the details of the Swansea method of "Copper Smelting." The details of the process differ in each works, but in every case it is substantially the same. He described the process as practised at the Hafod Works, Swansea, in 1841, with the smallest number of operations (6), which can only be done when the smelter has command of a sufficient quantity of Australian ores.

Process 1—Calcination. This is an imperfect roasting, effected in a large, flat-bottomed, low-roofed, reverberatory furnace, which was here described with diagrams. From 3 to 3 $\frac{1}{2}$  tons of ore are distributed evenly over the bed of the furnace. During the first part of the operation great attention is required on the part of the workmen: the temperature must not be too high, or "clotting" will take place, and the operation consequently be impeded. Afterwards, the temperature is gradually raised: the condition to be desired is the highest temperature below that point at which the ore will clot or fuse. The time varies from 12 to 24 hours, according to the nature of the ore, &c. The effect of the calcination is to expel a large amount of sulphur, chiefly as sulphuric acid, and to convert another portion of the sulphur into sulphuric acid, under the influence of the oxides of iron and copper present. By this roasting it is not desired to expel the whole of the sulphur: enough is left in the ore to form a matte with the copper and iron, corresponding in composition to pure copper pyrites—about 24 per cent. of copper.

Process 2—Fusion. The calcined ore is fused with "metal slag," a silicate of iron containing some copper. Products, "coarse metal," and "ore furnace slag." The furnace and mode of forming its bed were fully described. The charge (from 1 to 1 $\frac{1}{2}$  ton of calcined ore and metal slag) is introduced, and when well melted, the slag is skimmed off through the end door of the furnace. A second charge is then introduced, and after perfect fusion, the slag is again skimmed off: this is repeated until as much coarse metal is obtained as the bed will conveniently hold. The coarse metal may then run into a pit containing water, to granulate it: at the bottom of the pit is a large sieve, in which the granulated metal collects: the sieve is connected with an apparatus, by which it can be raised and lowered. In this operation all the silicas and earthy bases are separated in the slag, which is examined for "shots," and, if clean, thrown away.

Process 3—Calcination of the coarse metal. The granulated coarse metal is calcined like the ore in the first process, in a similar furnace. Charge, 3 to 3 $\frac{1}{2}$  tons; time, 24 to 36 hours.

Process 4—Fusion of the calcined coarse metal. The calcined granulated coarse metal is fused with "roaster" and "refining slag," and Australian ores. These slags and Australian ores may be considered as so much oxide of copper put in. Products, "metal," which in this case is "white metal," having nearly the composition of sulphide of copper, and "metal slag." The slag is skimmed off, and the metal cast into sand-beds. When the smelter has not at command a sufficient quantity of Australian ores, he will obtain "blue metal," which will necessitate another calcination and fusion to convert it into white metal.

Process 5—Roasting. In different works this operation is conducted in a somewhat different manner. The "metal" is heated at such a temperature as to require from six to eight hours to effect its complete fusion; during which time air is allowed to flow freely over it from openings in the side of the furnace. The surface of the metal now presents the appearance of ebullition, due to the evolution of sulphuric acid from the reaction between dioxide and sulphide of copper, &c. The temperature of the furnace is now lowered, so as to allow the metal to become solid; during this cooling the metal passes through a pasty state, whilst sulphuric acid is continued to be evolved. The surface is thereby thrown up into little craters and cones, several inches high, or, in technical language, the "metal rises." By this process of rising more sulphur is evolved, doubtless due to the greater extent of surface exposed to the air. After the metal has become solid, the doors are closed, the temperature raised, and the metal remelted; it is then tapped off into sand-beds. Products, "blister copper," which is the exact equivalent of the German "black copper," containing about 95 per cent. of copper; and "roaster slag." This slag is skimmed off twice during the process—1, after the first fusion; 2, immediately before tapping.

Process 6—Refining. From 6 to 8 tons of blister copper are melted



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RAILWAY WAGONS, NEW OR SECOND-HAND.

The Trustees are prepared to PURCHASE, or receive TENDERS for BUILDING, THIRTY NARROW GAUGE BALLAST WAGONS, to contain 6 tons each.

Copies of the specification may be had at the Office of the Engineer to the Trust, Harbour Office, Swansea.

Tenders to be delivered to the undersigned, on or before Monday, the 14th day of December next, and to whom full particulars as to second-hand wagons may be sent, Harbour Office, Swansea, Nov. 19, 1857.

LEWIS THOMAS, Clerk.

SCINDE RAILWAY COMPANY.—The Directors of this company are prepared to receive TENDERS for the CONSTRUCTION of the RAILWAY between KURRACHEE and KOTREE, a distance of 109 miles, or thereabouts.

The plans and conditions of contract may be seen upon application to Mr. T. A. Yarrow, the company's consulting engineer, at his offices, in Gresham House, on and after Tuesday, the 17th inst.

Tenders to be addressed to the Directors, and lodged at the company's offices before Twelve o'clock on Friday, the 4th day of December. The directors do not bind themselves to accept the lowest, or any tender.

By order of the Board, THOMAS BURNELL, Sec.

Scinde Railway Company's Office, Gresham House, Old Broad-street, London, E.C., Nov. 14, 1857.

EAST INDIA COAL COMPANY (LIMITED).—Notice is hereby given, that the SECOND ORDINARY GENERAL MEETING of the shareholders in this company will be HELD, in accordance with the Deed of Settlement, at the company's office, 221, Gresham House, Old Broad-street, on Monday, the 7th December, 1857.

The directors who retire, in accordance with the Deed, are Sir Thomas Herbert Maddock; Lewis D. B. Mackay, Esq.; and His Highness Meer Jaffar Alee; the whole of whom, being eligible, offer themselves as candidates for re-election.

The following gentlemen have also intimated their intention of offering themselves as directors:—John Gregory, Esq., of Messrs. White and Co.'s, bankers, Haymarket; W. S. Austin, Esq., barrister, Reform Club, Pall Mall; George Armitage, Esq., Clement's Lane, Lombard-street; and Peter Brown, Esq., Rasinghill-street.

The auditors, Messrs. John Noble and H. C. Read, have also intimated their intention of offering themselves as candidates for re-election; and W. H. Dawson, Esq., has intimated that it is his intention to offer himself as a candidate.

The chair will be taken at Two o'clock precisely.

The Transfer-books of this company will be closed from the 20th November until the 9th December, inclusive.

By order of the Court of Directors, HENRY HAYMEN, Sec.

221, Gresham House, Old Broad-street, London, E.C., Nov. 15, 1857.

THE GREAT CRINNIS COPPER MINING COMPANY.—The shareholders are respectfully informed that the ADJOURNED GENERAL MEETING will be HELD at my office, as below, on Thursday, the 26th day of November inst., at One o'clock precisely. Their attendance is earnestly requested, as business of great importance will be brought before it.

By order, WILLIAM CHARLES, Sec.

27, Austin Friars, E.C., Nov. 13, 1857.

THE WEST PAR CONSOLS COPPER AND TIN MINING COMPANY.—Notice is hereby given, that a GENERAL MEETING of the shareholders in this company will be HELD at the office, No. 117, Bishopsgate-street Within, London, on Tuesday, the 24th inst., at Two o'clock precisely.

And further take notice, that the said GENERAL MEETING will be made SPECIAL, for the purpose of disposing of (as the meeting shall determine) certain shares forfeited at the Special General Meeting, held on the 27th day of August last.

By order of the Committee, J. H. MURCHISON, Secy. and Purser.

117, Bishopsgate-street Within, Nov. 11, 1857.

THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).—In 10,000 shares, of £5 each.

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Prospectuses can be obtained at the office, No. 117, Bishopsgate-street Within, London.

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Messrs. BRUNTON and Co. beg to inform proprietors of mines, &c., that the business of these properties is carried on in their office upon the following principles, viz.:—

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—Entire and impartial openness of books, reports, and documents, to all shareholders, for perusal or extract.

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At the Court of Vice-Warden of the Stannaries.—Stannaries of Cornwall.

PURSUANT to an ORDER, or DECREE, made in the Cause of—

MARTYN v. COCK.

The CREDITORS in respect of TREVONE CONSOLS MINE, in the parish of Padstow, within the said Stannaries, are, on or before the 2d day of December next, to COME IN and PROVE THEIR DEBTS before the Registrar of the said Court, at his office in Truro, or in default thereof they will be summarily excluded the benefit of the said Decree.—Dated Registrar's Office, Truro, Nov. 18, 1857.

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| 2000 Botallack (tin, copper), St. Just*             | 91 1/2           | 220      | 200           | 415 5 0  | 5 0                  | Oct. 27, 1857.  |                |
| 1200 Brightside and Froggatt Grove, Derbyshire      | 3                | 4        | 41 1/2 4 1/2  | 3 0 0    | 0 0                  | Apr. 30, 1856.  |                |
| 100 Brynford Hall (lead), Flint                     | 20               | 80       | 40 50         | 13 0 0   | 0 5 0                | July 31, 1856.  |                |
| 1000 Bryntail, Llandaff, Montgomeryshire            | 7 1/2            | 2        | 1 1/2         | 0 5 0    | 0 5 0                | July 1, 1854.   |                |
| 420 Budnick Consols (tin), Perran                   | 2 1/2            | 6        | 6             | 0 10 0   | 0 10 0               | Mar. 28, 1857.  |                |
| 6000 Bwlch (silver-lead), Cardiganshire             | 31. 1s. 6d.      | 1        | 1             | 0 3 6    | 0 2 0                | July 30, 1856.  |                |
| 1000 Carn Brea (copper, tin), Illogan               | 15               | 45       | 45 50         | 237 19 0 | 2 0 0                | Nov. 11, 1857.  |                |
| 2048 Carnthwistle (tin), St. Just                   | 4 1/2            | 5 1/2    | 5 1/2 6 1/2   | 0 15 0   | 0 0 0                | June 16, 1856.  |                |
| 300 Cefn Cwm Brynwy (lead), Cardiganshire           | 32               | 55       | 45            | 3 0 0    | 0 0 0                | Oct. 4, 1855.   |                |
| 2000 Collacombe (copper)                            | 5                | 16       | 16 1/2 17 1/2 | 2 17 0   | 0 0 0                | Sept. 30, 1857. |                |
| 236 Condirrow (copper, tin), Camborne [S.E.]        | 20               | 110      | 110 15        | 85 0 0   | 2 0 0                | June 2, 1856.   |                |
| 1055 Craddock Moor (copper), St. Cleer              | 8                | 40       | 40            | 0 5 0    | 0 5 0                | Sept. 11, 1857. |                |
| 30000 Craven Moor (lead), Yorkshire                 | 1/2              | 1/2      | 1/2 1/2       | 0 0 0    | 0 0 0                | Feb. 28, 1856.  |                |
| 128 Cwmyntwith (lead), Cardiganshire                | 60               | 140      | 150           | 95 0 0   | 5 0 0                | Aug. 20, 1857.  |                |
| 280 Derwent Mines (silver-lead), Durham             | 300              | 150      | 150           | 122 0 0  | 10 0 0               | June 23, 1857.  |                |
| 1024 Devon Great Consols (cop.), Tavistock* [S.E.]  | 1                | 450      | 440 450       | 595 0 0  | 8 0 0                | Nov. 20, 1857.  |                |
| 672 Ding Dong (tin), Gwyltyr*                       | 32               | 20       | 17 1/2 20     | 16 7 6   | 1 10 0               | Mar. 2, 1852.   |                |
| 179 Dolcoath (copper, tin), Camborne*               | 25 1/2           | 310      | 250 270       | 94 3 0 0 | 8 0 0                | Oct. 12, 1857.  |                |
| 12000 Drake Wall (tin, copper), Calstock            | 11. 10s. 6d.     | 2        | 1 1/2 1 1/2   | 0 15 0   | 0 2 0                | Sept. 11, 1857. |                |
| 300 East Daren (lead), Cardiganshire                | 32               | 100      | 100           | 33 0 0   | 3 0 0                | Oct. 15, 1857.  |                |
| 2048 East Falmonth (lead), Illogan*                 | 3                | 21 1/2 3 | 2 1/2 3       | 0 5 0    | 0 2 0                | Oct. 18, 1857.  |                |
| 123 East Pool (tin, copper), Pool, Illogan*         | 24 1/2           | 240      | 150 200       | 222 10 0 | 2 10 0               | Oct. 22, 1857.  |                |
| 1234 East Wheal Margaret (tin, copper)              | 7 1/2            | 10       | 3 1/2 4       | 0 5 0    | 0 5 0                | Jan. 11, 1854.  |                |
| 5700 Exmouth (silver-lead)                          | 14 1/2           | 8        | 3 1/2 4       | 3 0 0    | 0 4 0                | Oct. 23, 1857.  |                |
| 1400 Eynam Mining Company (lead), Derbyshire        | 5                | 60       | 59 61         | 15 13 4  | 1 0 0                | Oct. 8, 1857.   |                |
| 4910 Fowey Consols (copper), Towythead*             | 4                | 7        | 5             | 41 4 3   | 0 6 0                | Feb. 17, 1857.  |                |
| 4448 General Mining Co. for Ireland (cop., lead)    | 3 1/2            | 1        | 1             | 1 0 8    | 0 3 0                | June 5, 1857.   |                |
| 2000 Goginan (silver-lead), Cardiganshire           | 7 1/2            | —        | 2 1/2         | 22 0 0   | 0 5 0                | Sept. 5, 1857.  |                |
| 1024 Gomena (copper), St. Cleer                     | 13 1/2           | 15       | 10 12         | 0 7 6    | 0 7 6                | Dec. 21, 1852.  |                |
| 243 Grambler and St. Asbyn (copper)                 | 105 1/2          | 82 1/2   | 82 1/2 85     | 6 0 0    | 2 0 0                | Nov. 3, 1857.   |                |
| 6000 Great South Tolgus [S.E.]                      | 2 1/2            | 16       | 14 1/2 15     | 1 4 6    | 0 8 0                | Oct. 26, 1857.  |                |
| 2888 Great Wheal Vor (tin, cop.), Helston [S.E.]    | 7 1/2            | 25       | 25 1/2        | 0 5 0    | 0 5 0                | Oct. 23, 1857.  |                |
| 119 Great Work (tin), Germoe                        | 100              | 140      | 221 10 0      | 7 10 0   | 2 0 0                | Feb. 27, 1857.  |                |
| 1024 Herodotus (lead), near Liskeard                | 8 1/2            | 7 1/2    | 7 1/2 8       | 3 2 6    | 0 0 0                | Sept. 23, 1857. |                |
| 6000 Hington Down Consols (copper), Calstock        | 3 1/2            | 61/2     | 54 1/2 54     | 2 16 0   | 0 2 0                | Nov. 25, 1856.  |                |
| 2000 Holyford (copper), near Tipperary              | 11               | 8 1/2    | 4 2 6         | 0 5 0    | 0 5 0                | Jan. 28, 1857.  |                |
| 2500 Isle of Man (Limited)*                         | 25               | 42       | 54 17 3       | 1 0 0    | 0 0 0                | Sept. 3, 1857.  |                |
| 76 Jamaica (lead), Mold, Flintshire                 | 31. 1s. 6d.      | —        | 380 0 0       | 5 0 0    | 0 0 0                | Mar. 10, 1851.  |                |
| 20 Laxey Mining Company, Isle of Man                | 100              | 1000     | 1000          | 1420 0 0 | 50 0 0               | June 30, 1857.  |                |
| 160 Levant (copper, tin), St. Just                  | 2 1/2            | 90       | 80 90         | 1062 0 0 | 4 0 0                | May 12, 1857.   |                |
| 5000 Lewis Mines (tin, copper), St. Erth            | 51. 1s. 10d.     | 3 1/2    | 3 1/2 3 1/2   | 0 10 0   | 0 0 0                | Dec. 20, 1855.  |                |
| 4000 Lisburne (lead), Cardiganshire, Wales          | 15 1/2           | 120      | 120           | 301 10 0 | 3 0 0                | Oct. 1, 1857.   |                |
| 6000 Marks Valley (copper), Caradon                 | 41. 10s. 6d.     | 3        | 2 1/2 3       | 0 5 6    | 0 3 0                | Sept. 7, 1857.  |                |
| 5000 Mendip Hills (lead), Somerset                  | 3 1/2            | 15       | 1 7 6         | 0 7 6    | 0 5 0                | May 29, 1857.   |                |
| 5000 Merlin (lead), Flint                           | 3 1/2            | 15       | 1 7 6         | 0 7 6    | 0 5 0                | May 29, 1857.   |                |
| 1300 Minera Mines (Limited)                         | 25               | 90       | 125           | 21 0 0   | 3 10 0               | Aug. 13, 1857.  |                |
| 5000 Nantze and Penhwick, Limited (2 1/2 shares)    | 1 1/2            | 15       | 1 1/2 1 1/2   | 0 1 6    | 0 1 6                | Apr. 30, 1857.  |                |
| 6400 Nether Heath, Westmorland                      | 2s.              | —        | 12 15 6       | 0 10 0   | 0 10 0               | July 2, 1857.   |                |
| 4700 Newtonards Mining Company, Co. Down*           | 50               | 35       | 48 0 0        | 0 0 0    | 1 0 0                | Oct. 17, 1856.  |                |
| 200 North Pool (copper, tin), Pool                  | 36 1. 10s. 6d.   | 70       | 60 70         | 324 0 0  | 2 0 0                | Dec. 26, 1854.  |                |
| 140 North Rosker (copper), Camborne                 | 50 1/2. 7s. 6d.  | 130      | 125 135       | 750 0 0  | 4 0 0                | Sept. 26, 1857. |                |
| 6000 North Wheal Basset (cop., tin), Illogan [S.E.] | 15 1/2           | 14 15    | 13 19 0       | 0 6 0    | 0 6 0                | Oct. 28, 1857.  |                |
| 6400 Par Consols (copper), St. Blazey [S.E.]        | 1 1/2            | 20       | 20 21         | 31 4 0   | 1 10 0               | Oct. 27, 1857.  |                |
| 500 Peak United (lead), North Derbyshire            | 7 1/2            | 2 1/2    | 4 10 0        | 0 0 0    | 0 0 0                | Apr. 12, 1857.  |                |
| 200 Phoenix (copper, tin), Linkinhorne              | 100              | 370      | 370           | 224 10 0 | 20 0                 | 0 0 0           | May 4, 1857.   |
| 1600 Polberro (tin), St. Agnes (Preference)         | 15               | —        | 18 11 9       | 1 0 0    | 1 0 0                | July 11, 1857.  |                |
| 560 Providence Mines (tin, Uny Lelant)*             | 20 1/2. 12s. 2d. | 80       | 70 4 6        | 4 6 0    | 4 0 0                | Nov. 15, 1857.  |                |
| 2500 Rhosydol and Bachdeiddon (lead)                | 11 1/2           | 12       | 10 13 0       | 0 3 0    | 0 3 0                | Oct. 21, 1857.  |                |
| 512 Rosewarne United (copper, tin), Gwinear*        | 12               | 30       | 25 27         | 31 10 0  | 1 10 0               | June 8, 1857.   |                |
| 12000 Sortridge Consols (cop.), Whitechurch [S.E.]  | 6s.              | 21 1/2   | 21 1/2 21     | 0 10 0   | 0 0 0                | July 27, 1857.  |                |
| 5000 South Caradon (copper), St. Cleer [S.E.]       | 3 1/2            | 340      | 335 345       | 482 0 0  | 8 0 0                | Sept. 29, 1857. |                |
| 123 South Crinnis (copper), St. Austell             | 19               | 285      | 285           | 60 0 0   | 20 0                 | 0 0 0           | June 18, 1857. |
| 236 South Tolgus (copper), Redruth, Cornwall        | 16               | 130      | 120           | 74 0 0   | 3 0 0                | July 28, 1857.  |                |
| 496 South Wheal Frances, Illogan [S.E.]             | 18 1/2. 1s. 9d.  | 250      | 240 250       | 275 5 0  | 8 0 0                | Nov. 2, 1857.   |                |
| 1024 Speare Consols (tin), St. Just, Cornwall       | 31 1/2           | 2        | 1 1/2         | 8 8 6    | 0 2 0                | Dec. 10, 1853.  |                |
| 280 Spearne Moor (copper), St. Just*                | 23 1/2. 7s. 6d.  | 15       | 4 5 0         | 0 10 0   | 0 10 0               | June 13, 1856.  |                |
| 970 St. Asbyn and Grylls (cop., tin), Breage        | 6 1/2. 5s. 4d.   | 5        | 4 4 1/2       | 0 17 6   | 0 7 0                | April 1, 1852.  |                |
| 12000 St. Day United (tin and copper)               | 3                | 1 1/2    | 1 1/2 1 1/2   | 0 2 6    | 0 0 0                | Sept. 26, 1853. |                |
| 94 St. Ives Consols (tin), St. Ives                 | 30               | 160      | 150 160 1d.   | 915 0 0  | 5 0 0                | Nov. 19, 1857.  |                |
| 9600 Tamar Consols (sil.-lead), Beralston [S.E.]    | 4 1/2            | 14       | 1 1/2 1 1/2   | 4 13 6   | 0 5 0                | Feb. 6, 1852.   |                |
| 6000 Tincroft (copper, tin), Pool, Illogan [S.E.]   | 9                | 4        | 8 3 6         | 0 5 0    | 0 5 0                | April 13, 1857. |                |
| 572 Trelyon Consols (tin), St. Ives                 | 11 1/2           | 14       | 13 15         | 1 15 0   | 0 5 0                | June 5, 1857.   |                |
| 96 Treweek (copper), Gwennap, Cornwall              | 6 1/2            | 65       | 55 65         | 467 15 0 | 5 0 0                | June 1, 1857.   |                |
| 4700 Trethellan (copper, tin), Bodmin               | 11. 3s. 6d.      | 20       | 18 20         | 403 13 6 | 2 0 0                | April 29, 1851. |                |
| 4096 Trewetha (silver-lead), Menheniot, Cornwall    | 2 1/2            | 3        | 1 1/2         | 0 5 0    | 0 5 0                | Sept. 2, 1852.  |                |
| 100 Trumpet Consols (tin), near Helston             | 95               | 50       | 50            | 55 0 0   | 5 0 0                | Dec. 20, 1854.  |                |
| 400 United Mines (copper), Gwennap [S.E.]           | 40               | 125      | 135 145       | 61 5 0   | 2 0 0                | Feb. 12, 1856.  |                |
| 512 Rosewarne United (copper, tin), Illogan*        | 12               | 30       | 25 27         | 0 10 0   | 0 10 0               | Nov. 17, 1857.  |                |
| 2000 Vale of Towy (lead), Carmarthen [S.E.]         | 3 1/2            | 15       | 1 1/2 1 1/2   | 0 2 6    | 0 0 0                | Sept. 21, 1857. |                |
| 512 South Consols (tin), St. Ives                   | 30               | 160      | 150 160 1d.   | 915 0 0  |                      |                 |                |